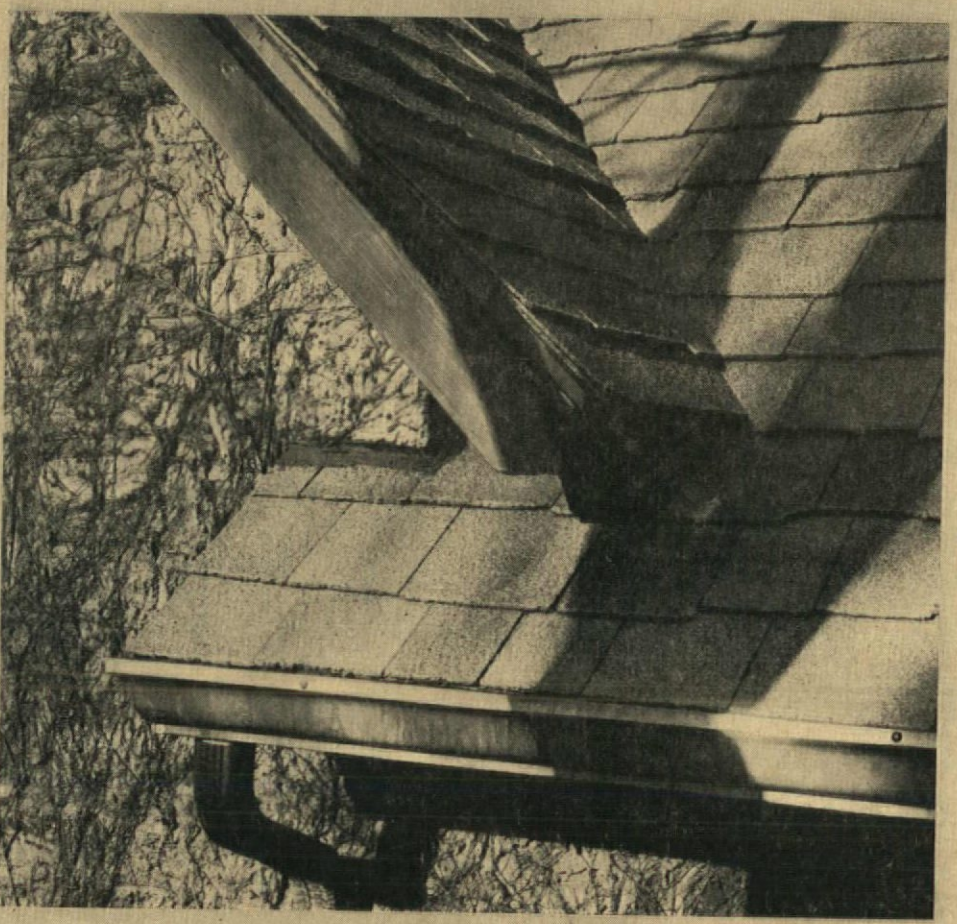
THE ARCHITECTURAL RECORD



OCTOBER
1930

BERN
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THE ARCHITECTURAL RECORD

Published Monthly by F. W. Dodge Corporation, 115–119 W. 40th St., New York

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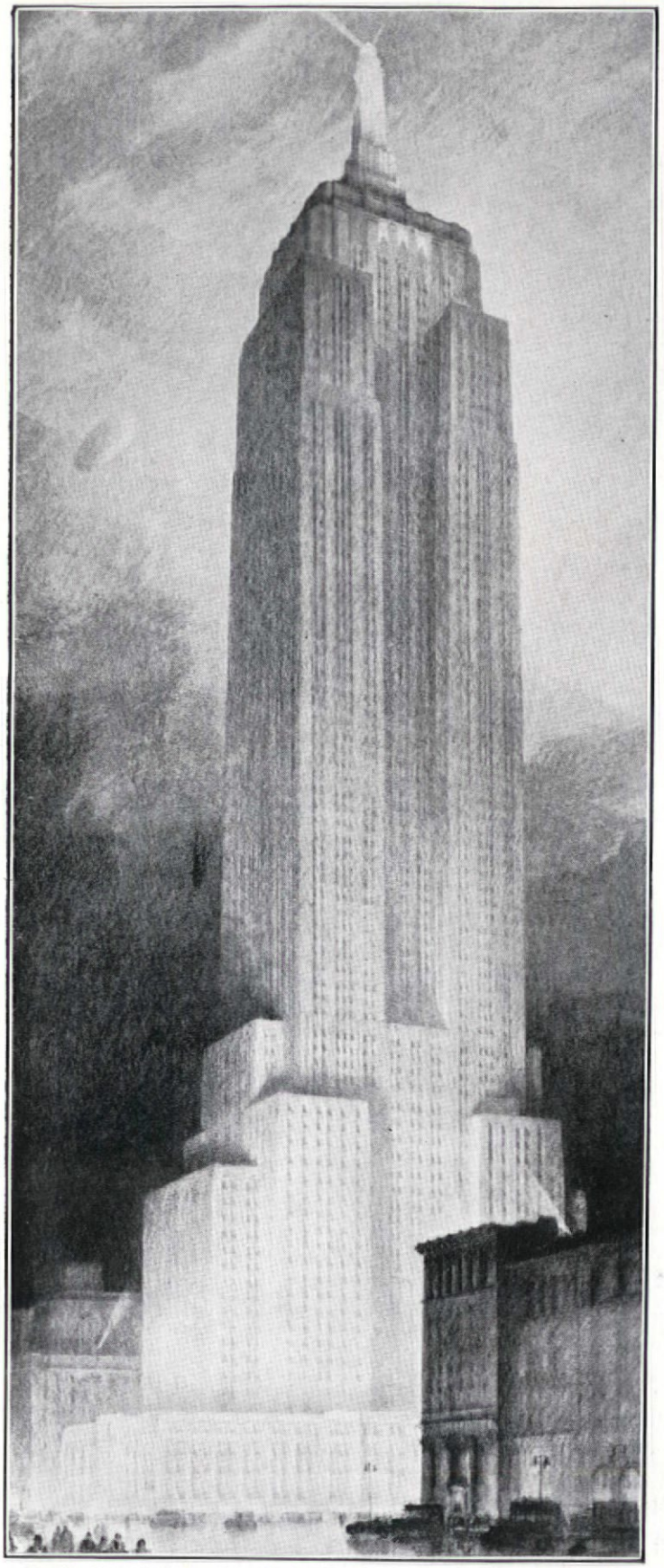
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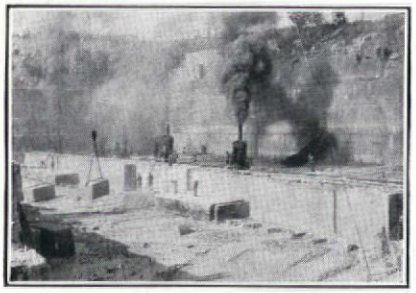
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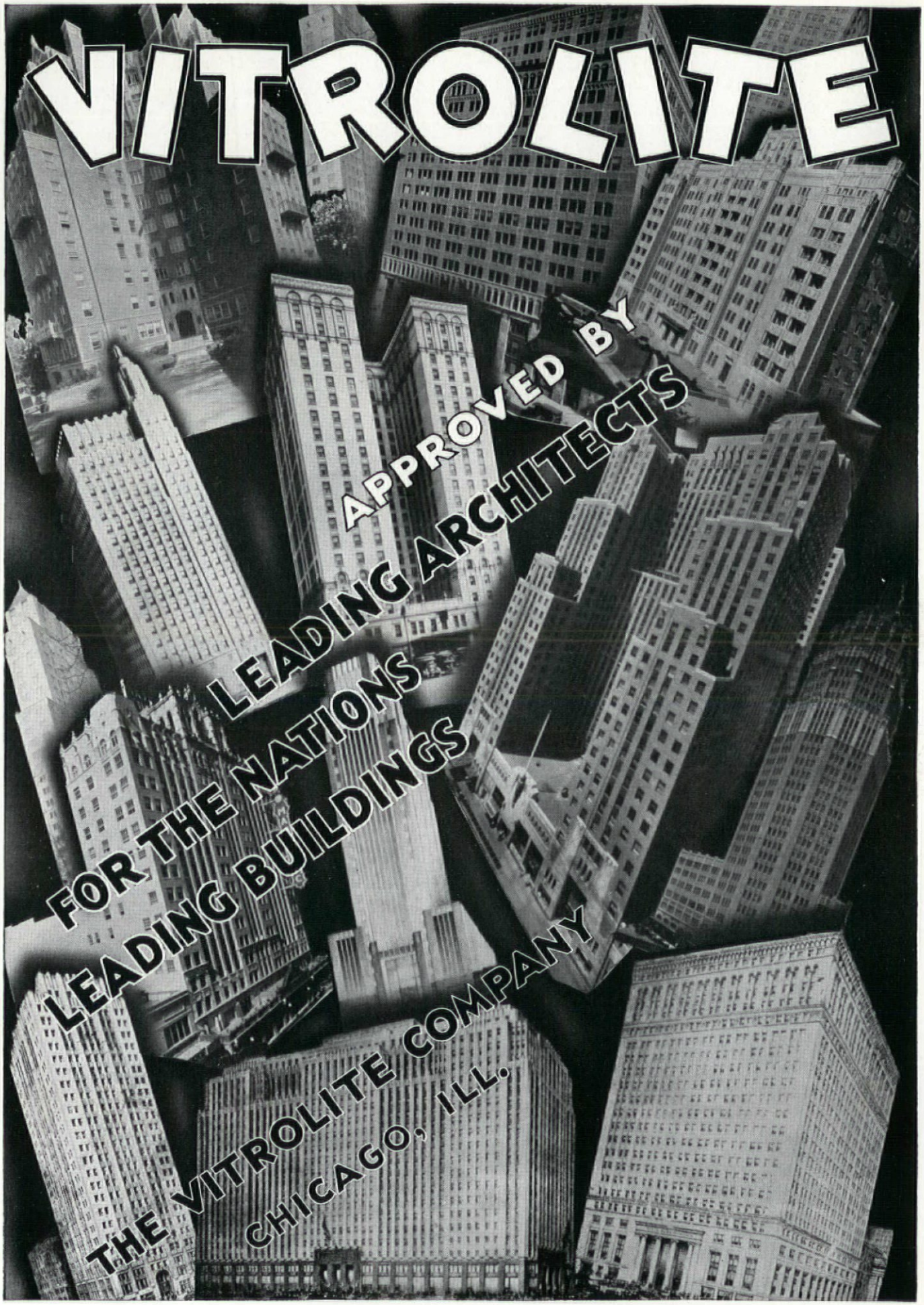
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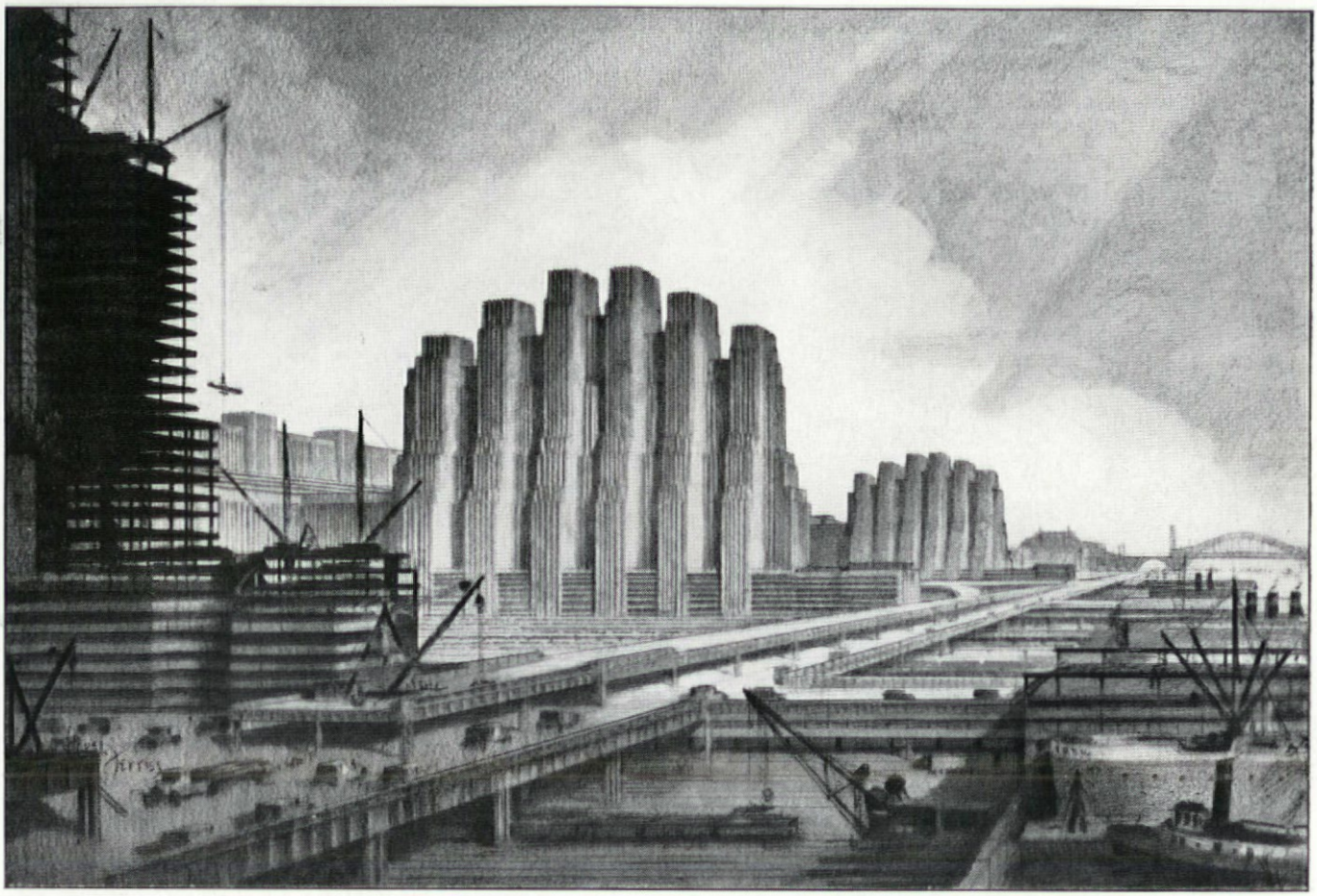
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AMERICAN WALNUT

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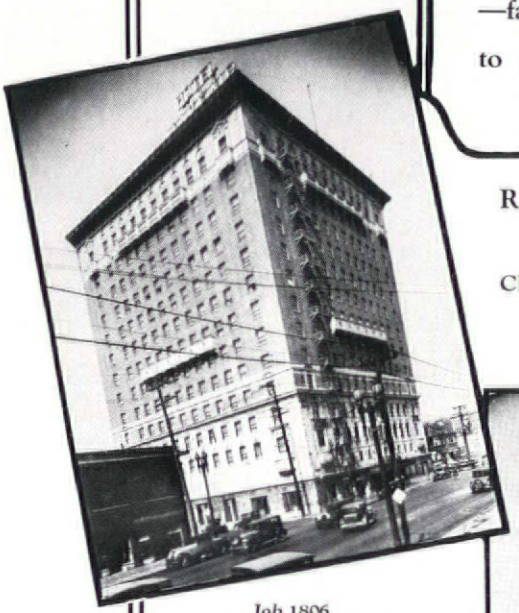
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48 Working Days



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Equitable Life Ins. Co. Bldg.
Des Moines, Iowa
1,478 Piles—21,227 Feet—
68 Working Days

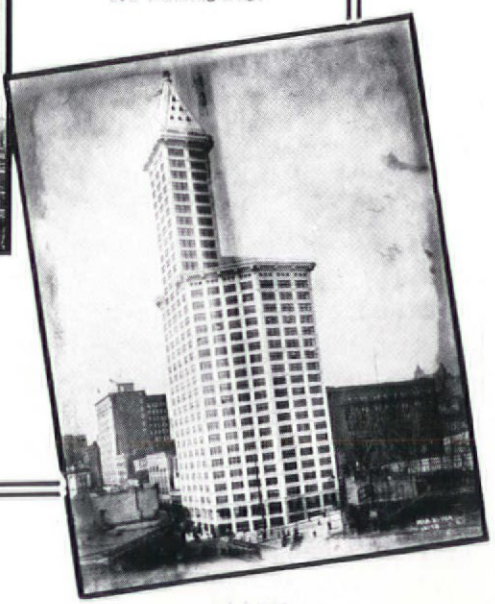


Job 1006
Federal Reserve Bank Building
Cleveland, Ohio
3,003 Piles—91,430 Feet—
176 Working Days



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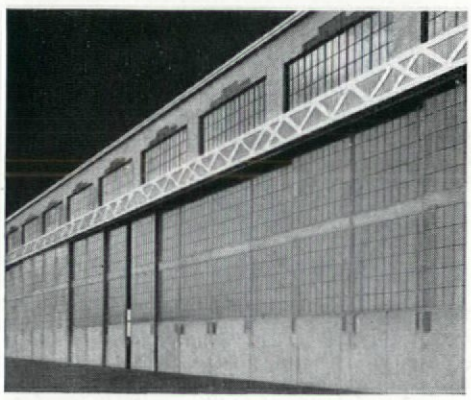


Job 209
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Seattle, Washington
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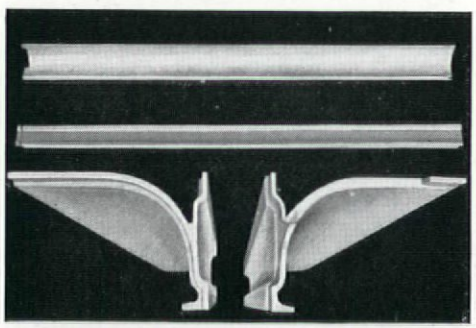
How Alcoa Aluminum is used Architecturally, at the Wayne County, Michigan, Airport



Hangar at Wayne County, Michigan, Airport. Built by the Board of Wayne County Road Commissioners, under the special supervision of Mr. L. C. Smith, Engineer Manager, and Mr. H. E. Baker, Airport Engineer for Wayne County. Giffels and Vallet, Inc., Architects and Engineers, Detroit, Michigan. General Builders, Gallagher and Flemmin. Aluminum Contractor, Anchor Steel Engineering Company.



Alcoa Aluminum Spandrels, approximately 3 ft. by 5 ft. 6 in. View shows these spandrels as used on sides of hangar. Note Alcoa Aluminum Cornices, also.



Front, back and edge views of Alcoa Aluminum Cornices. Cast in lengths 6 ft. 6 in. long by 5½ in. by 3¾ in.

In designing the Wayne County Airport, which is one of the few airports in the United States to have an official A-1-A rating, Giffels and Vallet made generous use of Alcoa Aluminum.

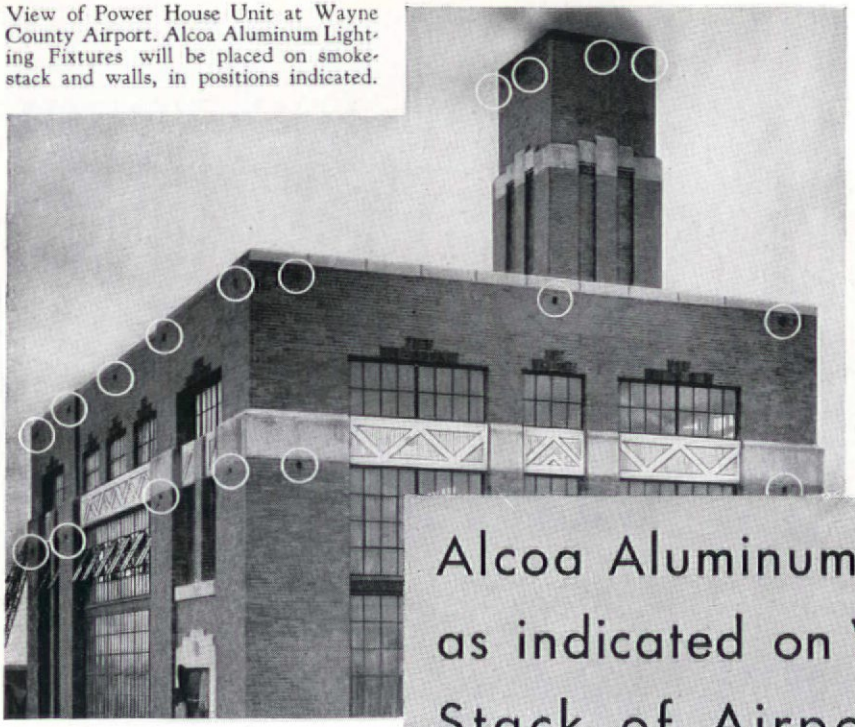
Following precedent, they specified Alcoa Aluminum Spandrels. 226 of these spandrels, approximately 3 ft. by 5 ft. 6 in., have a total weight of only 18,000 lbs. By using Alcoa Aluminum Spandrels, the whole structure was given a decided architectural character. In addition, a considerable saving was made in the structural members. The spandrels, cast in No. 43 Alcoa Aluminum Alloy, are themselves ⅔ lighter than similar spandrels cast in any other metal commonly used.

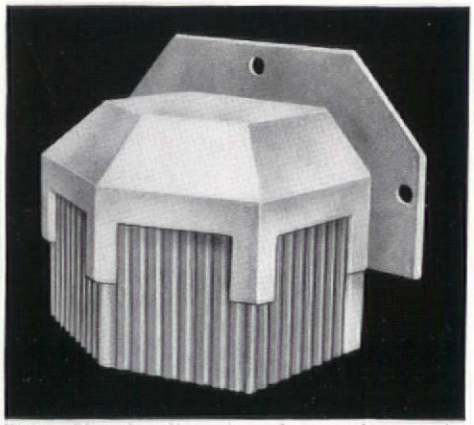
Next, the designers made use of Alcoa Aluminum for cornices. These were also cast of No. 43 Alcoa Aluminum Alloy, in lengths 6 ft. 6 in. long by 5½ in. by 3¾ in. The entire 1,014 feet of cornice, required, weighs only 3,000 lbs. Thus a further saving of approximately 6,000 lbs. was effected.

ALCOA
ALUMINUM
TRADE MARK

ALCOA

View of Power House Unit at Wayne County Airport. Alcoa Aluminum Lighting Fixtures will be placed on smoke-stack and walls, in positions indicated.





Fixture No. 4 has dimensions of 14⅛ in. by 10 in. by 8 in. It is cast of Alcoa Aluminum with a ¼ in. wall and weighs only 10⅜ lbs.

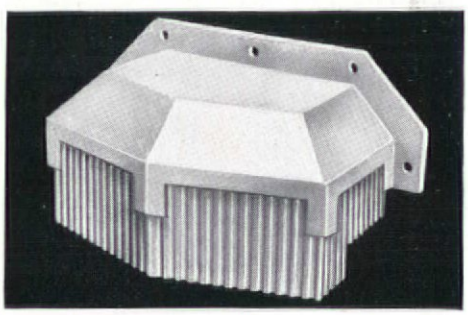
Alcoa Aluminum Lighting Fixtures, as indicated on Walls and Smoke-Stack of Airport Power House

Especially designed and constructed lighting fixtures made of Alcoa Aluminum for the airport insure that the aviators' eyes are not subjected to the glare of the lights.

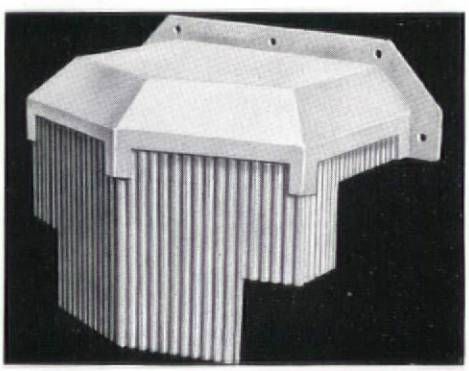
Although this is not the first time lighting fixtures have been fabricated of Alcoa Aluminum, these particular fixtures were cast to 3 special dimensions. There are 121 of these fixtures, yet their total weight is only 2,900 lbs.

Alcoa Aluminum has definitely proved its many varied and practical uses in structural and decorative effects. Its use is preeminently indicated where factors to be considered are lightness in weight and consequent ease of handling on the job; freedom from corrosion from water or gases; permanence, and a natural finish that does not require surface protection. Unaffected by atmospheric gases or sulphurous smoke fumes, it is suitable for use in or near roundhouses, chemical factories, or places where industrial processes result in a gaseous or damp condition, such as that which prevails in the textile or laundry business.

A representative from our nearest office will be glad to discuss the use of Alcoa Aluminum for any architectural purpose you may have in mind. ALUMINUM COMPANY *of* AMERICA; 2467 Oliver Building, PITTSBURGH, PENNSYLVANIA.



Fixture No. 3 weighs 20¼ lbs. It is 22 in. by 12½ in. by 12 in. Cast of Alcoa Aluminum with a ¼ in.wall.



Fixture No. 1 weighs 39¾ lbs. and is 28 in. by 18 in. by 20 in. It, too, is cast of Alcoa Aluminum with a ¼ in. wall.

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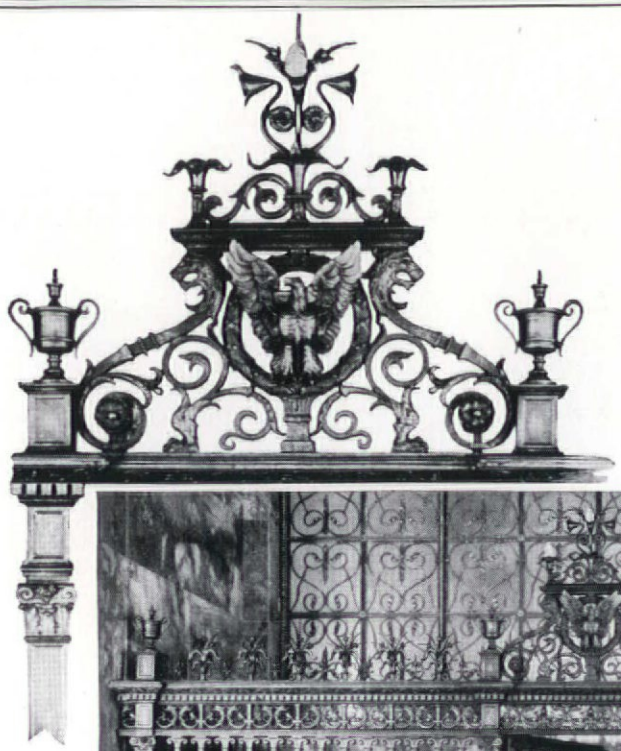
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(COAST TYPE)

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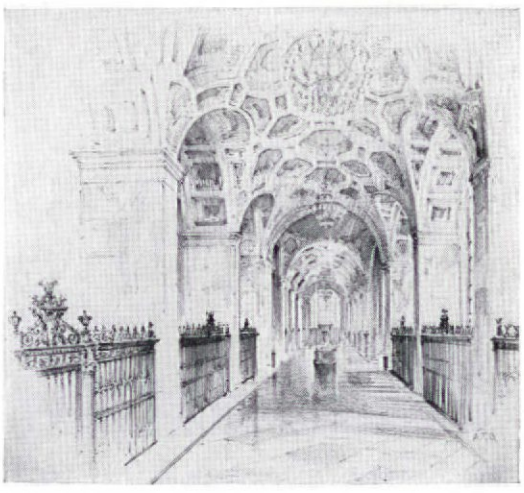
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Interiors of Banking Lobby



The side walls and pier facings in the Main Banking Lobby of this building are of Convent Sienna Marble, the floor—Tennessee. The barrelled ceiling is richly decorated in gold and color in the Roman manner. Lobby bays between the piers are screened with Iron grilles. Each bay, a private space adjacent to the Banking Screen, is allotted to Member Banks for business transactions. The grilles were originally designed for Wrought Iron. For economy, however, the work was Cast and the desired Wrought effect obtained by a baked enamel finish—in imitation of rusty iron. The arched window openings on the outer wall, shown in the background, are screened with glazed grilles. These were produced by similar methods of handling The entire Metal equipment of this building was fabricated by Flour City Ornamental Iron Plant,



WALKER & WEEKS, Architects

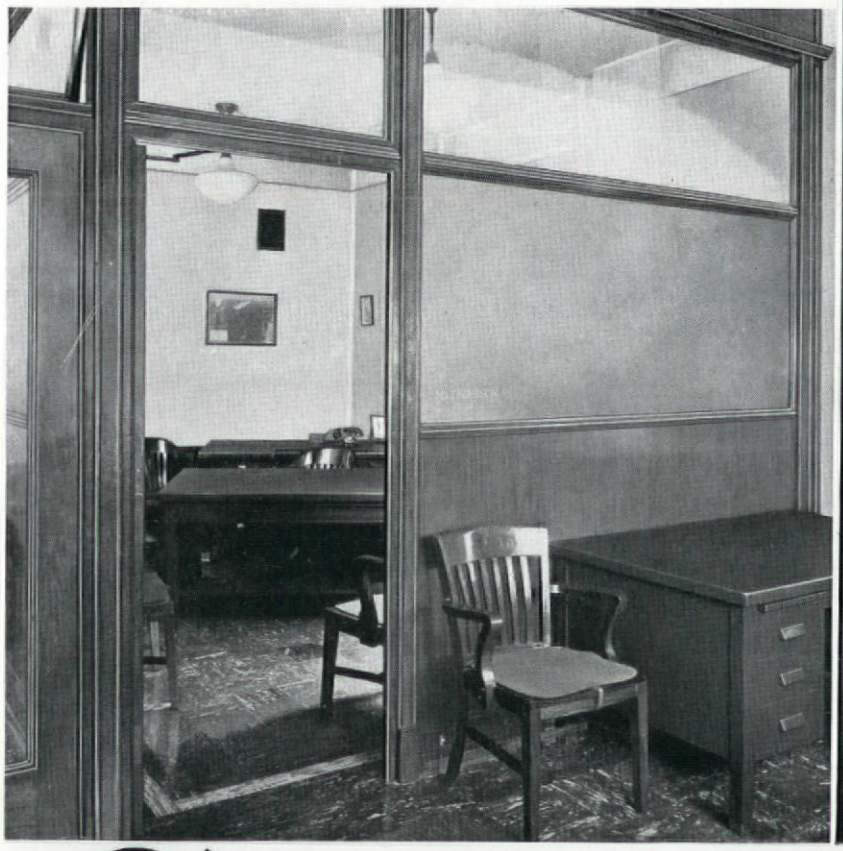
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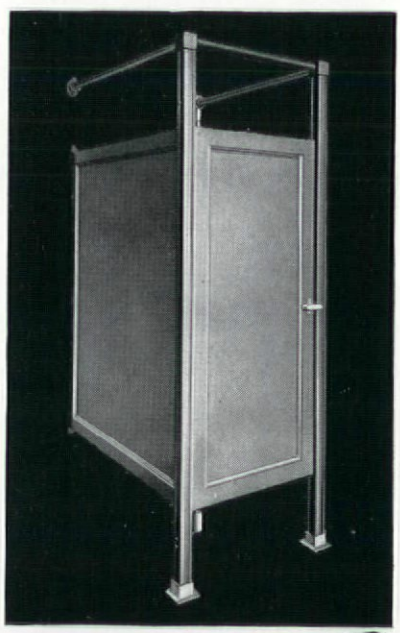
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The Sanymetal Products Co.
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CLEVELAND, OHIO



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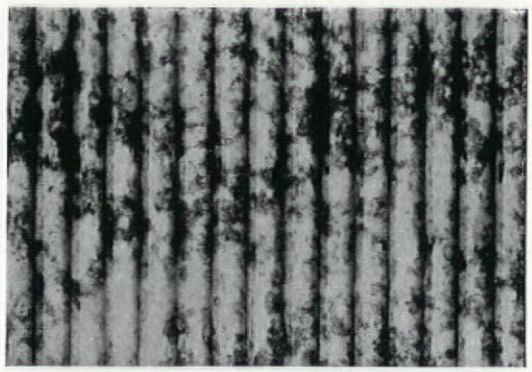
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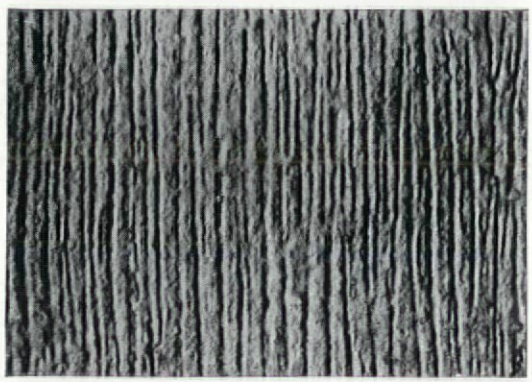
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Architects are invited to submit ideas for new kinds of textures that can be modeled and developed before their final plans and specifications are finished.

THE NORTHWESTERN TERRA COTTA COMPANY

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Cross section of Featherweight Concrete, slightly enlarged, showing the cellular nature of the Haydite aggregate and the dense, impervious structure of the concrete.

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. . LIGHT WEIGHT . .

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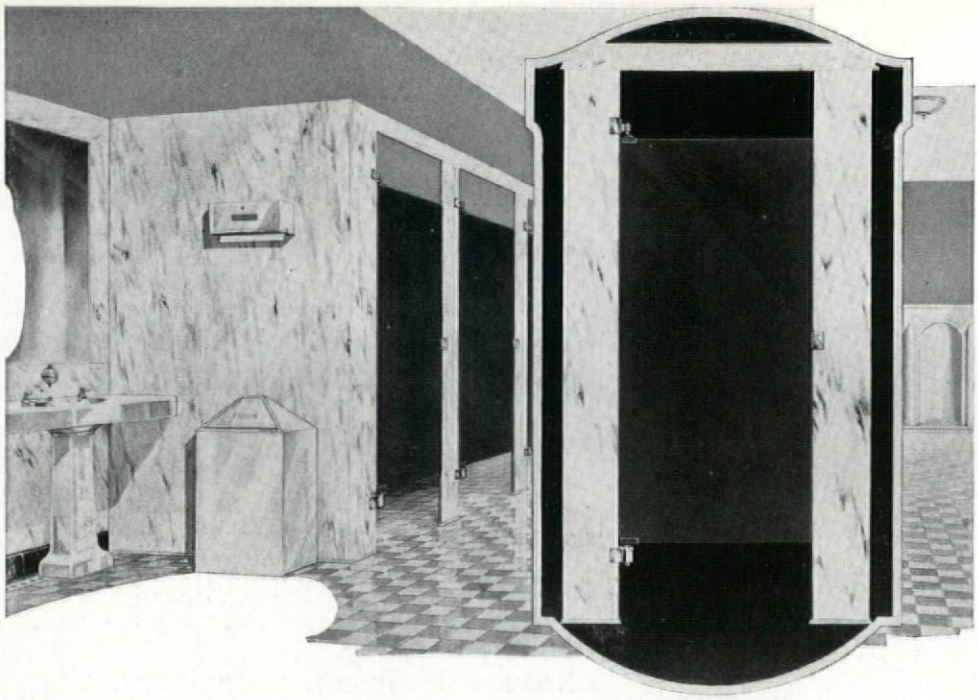
are on many prominent public buildings around the country, and on buildings for leading industrials, railroads and utilities—such as the Naval Armory at Chicago—Detroit Municipal Hangar—Bendix—Standard Oil—C. M. & St. P. R. R.—Deere—the Insull and Byllesby interests—and others. "Catalog and Roof Standards" on request.

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A METALUNIT is a combination of a flush or panel type door and the exclusive Weis Universal Gravity Hinge Set with other necessary door hardware items as may be selected. These METALUNITS are presented for use on lavatory stall partitions of marble, vitrolite, glass, slate, alberene stone, terrazzo, and like materials. METALUNITS are manufactured of steel, aluminum alloy, Monel or Allegheny Metal, or bronze. Hardware is either chromium or nickel plated. METALUNITS are available in a variety of colors and finishes, and provide the architect with a means of creating new treatment of line, color and quality in toilet room design. The two small illustrations show in detail the construction of Weis METALUNIT doors of the flush and panel types. Both are unique in the strength and rigidity they afford, and both are exclusive Weis construction.

On request, we shall be glad to send a beautiful, colored folder in which METALUNITS are completely illustrated and described, and in which is contained much valuable detail for your files. . . Henry Weis Manufacturing Co., Inc., Elkhart, Indiana.

Turn now to the six-page insert in color in Sweet's, 1930 edition, following page B2388, for full information concerning Metalunits.

WEIS
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80

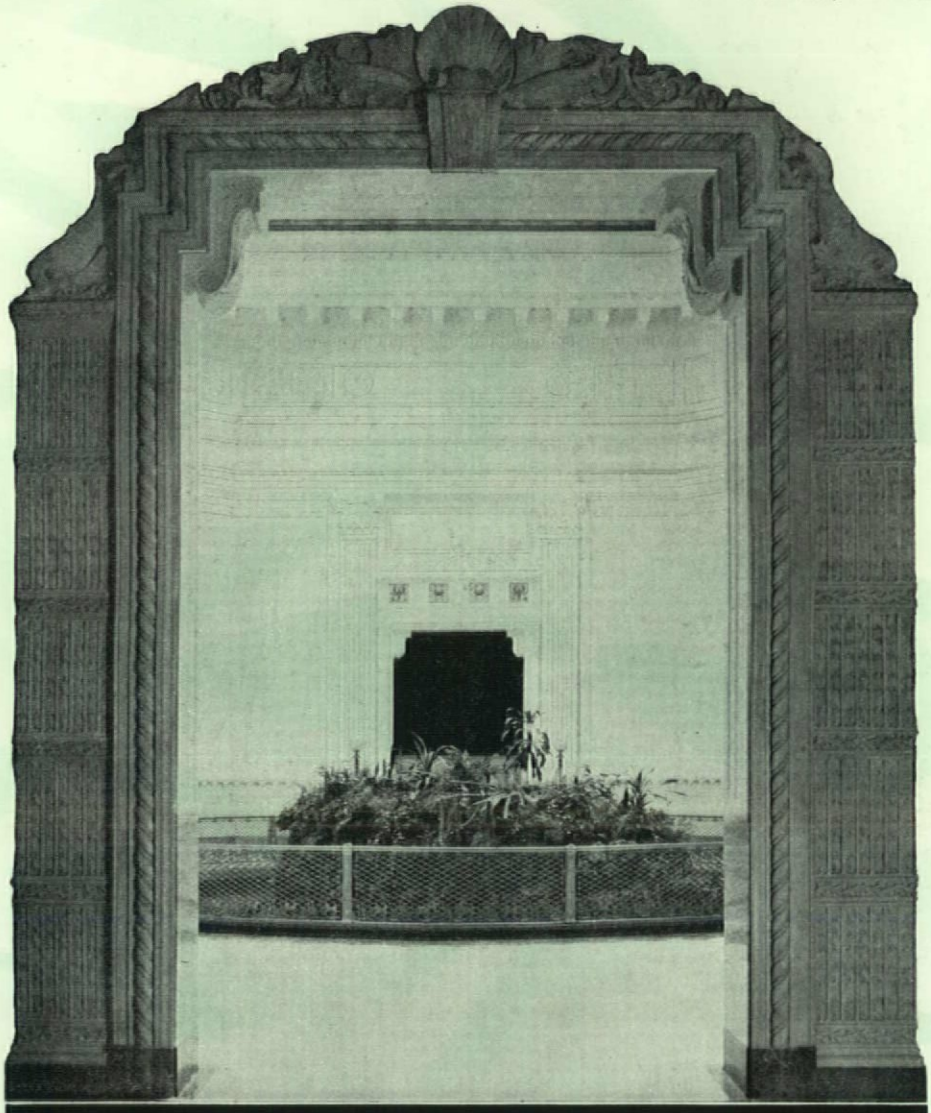
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FOR LASTING BEAUTY



Entrance to room containing tropical pool, Shedd Aquarium, Chicago. Art marble around pool, made with Atlas White portland cement, furnished by Chicago Art Marble Co. Stucco finish on pre-cast portal, also of Atlas White, furnished by California Stucco Products Co., Chicago. Graham, Anderson, Probst and White, architects; R. C. Wieboldt Co., general contractor; John A. Boland Co., plastering contractor, all of Chicago.

ATLAS WHITE PORTLAND CEMENT

On both exterior and interior of the beautiful Shedd Aquarium, Chicago, the use of Atlas White portland cement has added to the beauty and permanence of the new building.

Mortar made with Atlas White sets off the white marble exterior to excellent advantage and protects it against unsightly stains. Light-tinted blue and green stucco, made with Atlas White, gives the interior corridors an unusual and pleasing effect. Stucco applied over the pre-cast portals of each doorway strikes an unusual note. Art marble made with Atlas White decorates a tropical pool in the rotunda, the directors' room and various other rooms in the building.

Booklets containing in detail the many uses of Atlas White portland cement will be furnished on request.

Universal Atlas Cement Co.

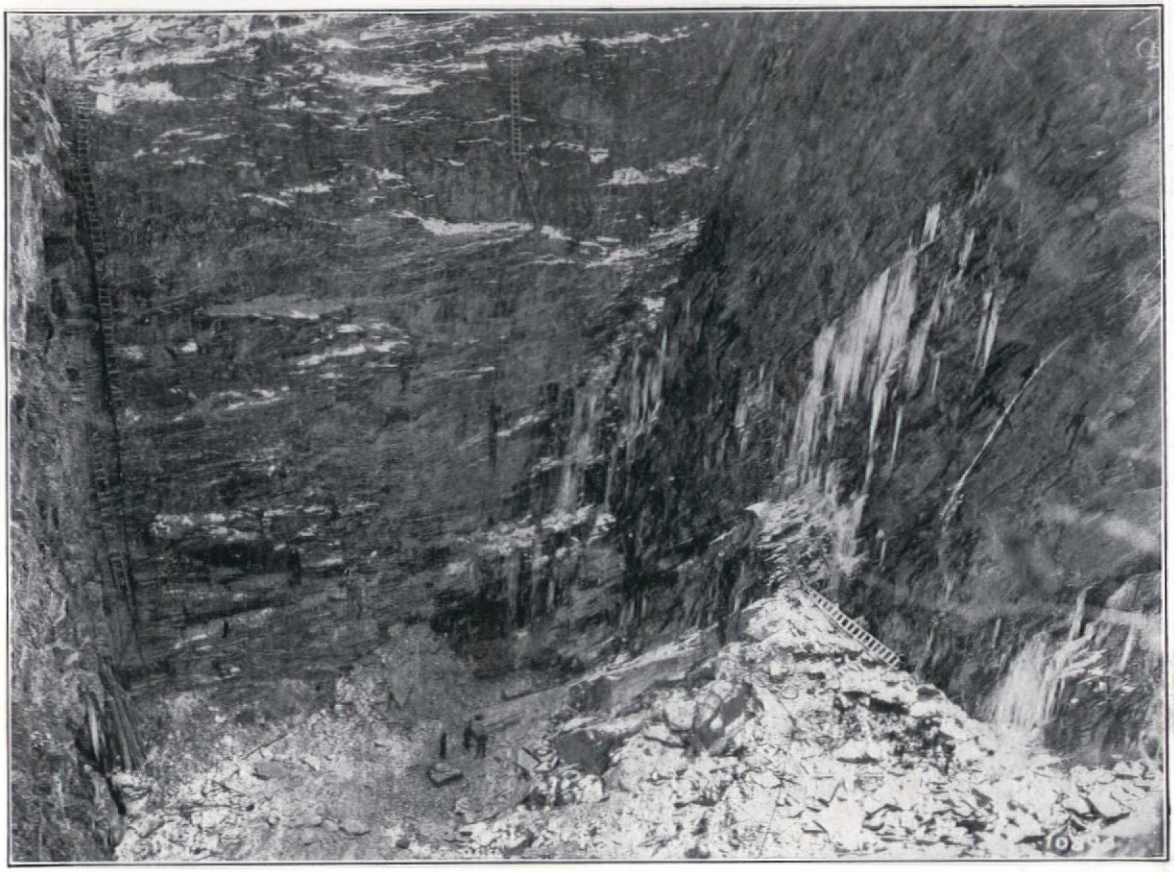
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One of the holes you made us dig



In a way, this is a puzzle picture: "Find the three men." But when you have found them, you have a better idea of dimensions.

In another way, it isn't a puzzle at all.

To be sure, it is only one of our several quarries: the one from which we extract Sheldon's Unfading Mottled Purple and Green. But for all that, it is no puzzle that so gigantic a hole was made by your demand for these matchless colored slates.

For, as we enumerated in detail last month, you can demand all the protective qualities a roof should possess and a Sheldon Slate Roof will meet you one hundred per cent in all of them.

In addition thereto, its beauty graces any building, be it the acme in design and construction, and lifts practically every building into a higher class.

Furthermore (to come back from esthetics to material essentials) its life, being longer than that of the building, makes it an incomparable investment.

Good reasons, are they not? why you have made us dig such enormous holes.

Our pages in Sweet's give technical data, also illustrations in colors, to help you visualize certain Sheldon combinations.

But, better than anything else, permit us to render you the most efficient assistance possible in the selection of a Sheldon Slate Roof that shall possess "all the beauty of appropriateness."

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Hand-Laid *Sunshine* underfoot



There are 15,000 sq. ft. of Armstrong's Linotile in the halls, domestic science kitchens, and library of this new High School at Great Neck, Long Island, N. Y.

* *

It's so easy to wipe up spilled things in this domestic science kitchen. It's floored with Armstrong's Linotile, of course.

BRIGHT surroundings make cheerful pupils. That's one of the reasons a tailor-made floor of Armstrong's Linotile is so desirable. There is no limit to the colors and designs that may be used in these custom-built floors.

Armstrong's Linotile has the advantage of being quiet, too. A pencil dropped on this sound-muffling floor won't distract a student's attention. Nor will shuffling feet, nor footsteps out in the hall, disturb classroom concentration.

In halls, cafeterias, and libraries, in fact in every room of any public building, Linotile is just as successful. These floors are lasting. They're clean and sanitary as well.

And Linotile is a labor-saving floor. It is very easily and quickly installed. And once it is laid, light waxing and polishing will preserve its lustre indefinitely.

Let us send you our booklet, "Custom-Built Floors of Cork." It illustrates the thirty Linotile colors, and tells about the various tile sizes. It will also give you information about Cork Tile, another Armstrong's tailor-made floor. Write to the Armstrong Cork Company, Custom Floors Division, Lancaster, Penna.

Armstrong's (A) *Product*



In this quiet library the Linotile floor has been laid by expert workmen.

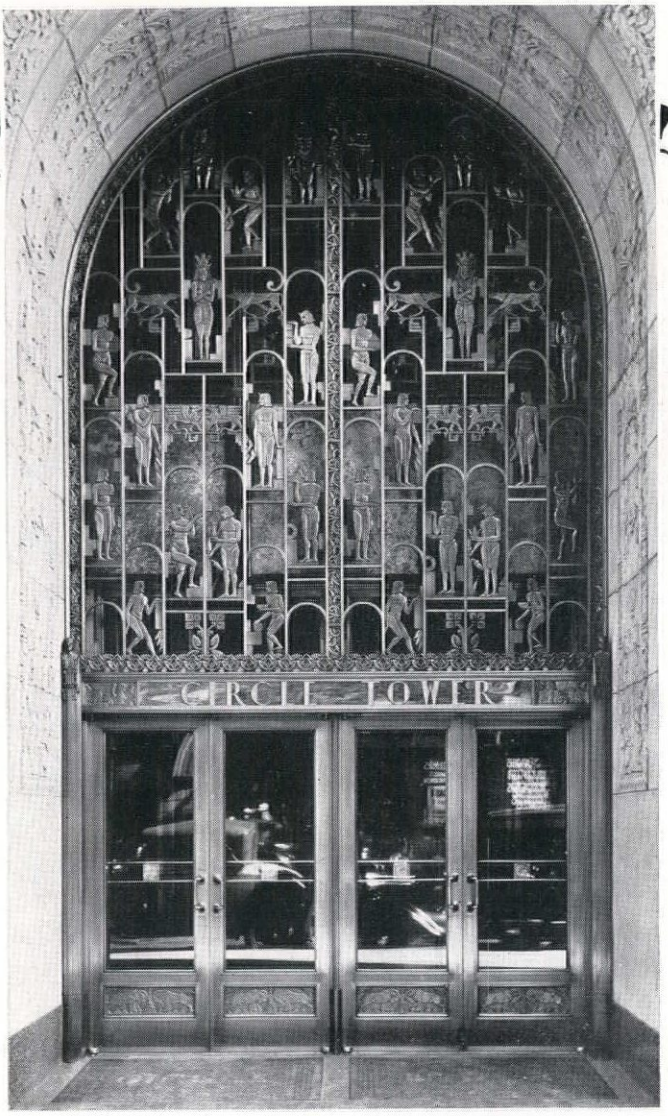
Armstrong's CUSTOM FLOORS

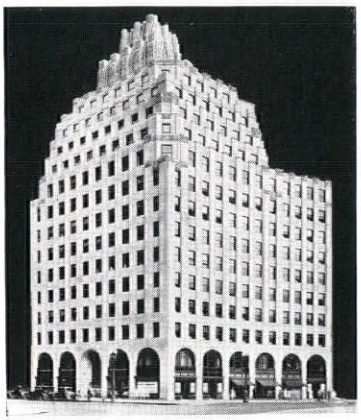
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Experience has shown that where lime plaster is used, the operator can spread more plaster, and with less effort, since he is able to get a full arm swing back of his trowel. Also the slower rate of set of lime plaster permits the operator to rough in a larger area before having to stop to rod or screed; this fact not only enables him to cover a larger area of surface in the same length of time, but also permits more accurate work with less effort.

When cornices, mouldings, and mitres are to be run, and elaborate ornamental work to be cast and stuck, the relatively slow rate of set of lime plaster is greatly appreciated. It permits truer surfaces, sharp arrises, straighter and more perfect corners because the plasterer has plenty of time to manipulate his hock and trowel without fear of premature setting.

Lime plaster is highly porous and thus is an excellent insulator against heat, cold, and the transmission of sound. Its ability to absorb rather than to transmit or reflect sound has made lime plaster highly desirable for churches, theatres, and the finer types of apartments and residences.

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-tested by time

Comparative cost analyses have shown that lime plaster in place on the wall costs five to eight cents less per square yard than other plasters, a considerable factor in increasing plastering profits.

New Specifications giving definite classifications and requirements in accordance with latest approved practice are now available. Write today for your copy.

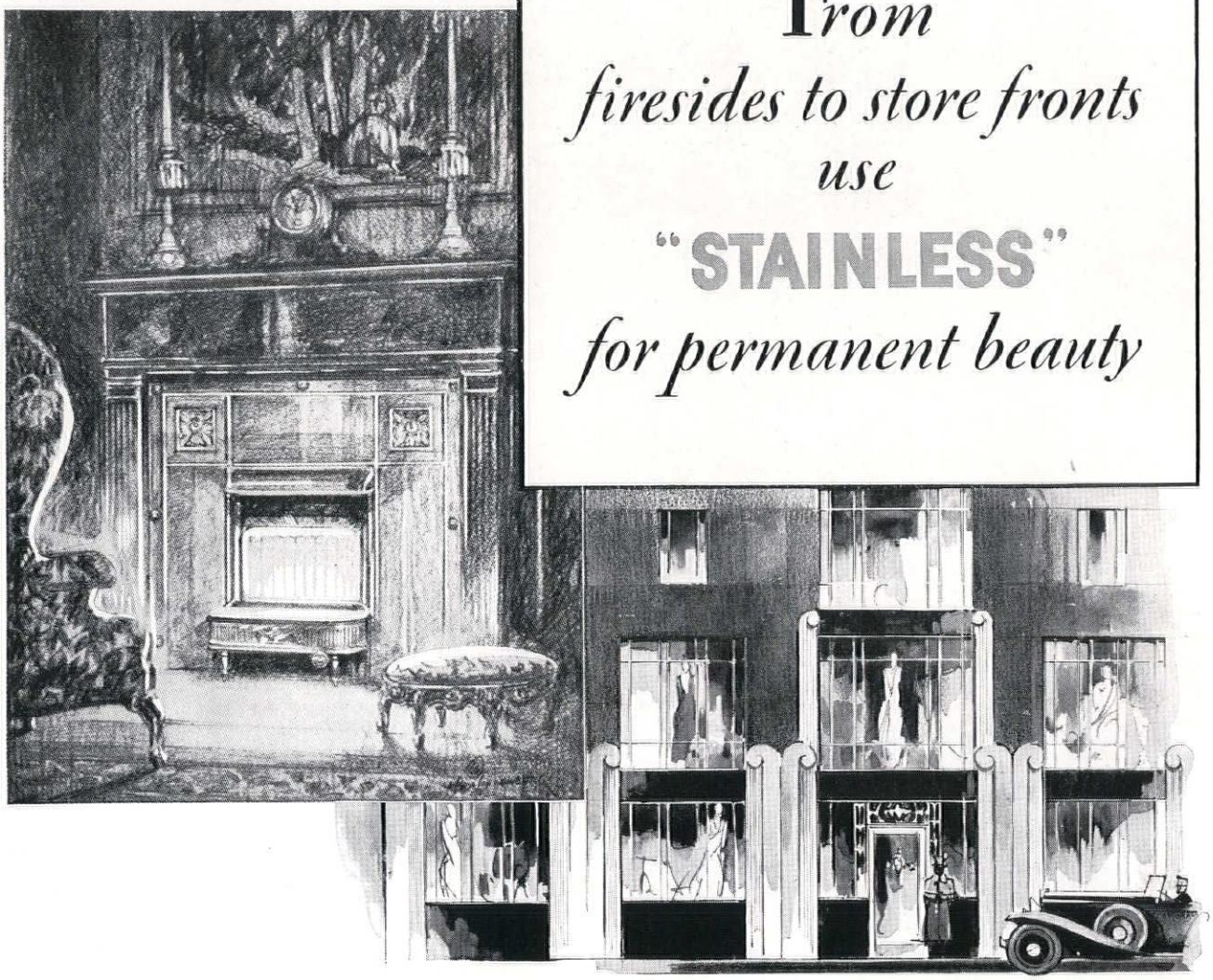
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172-A

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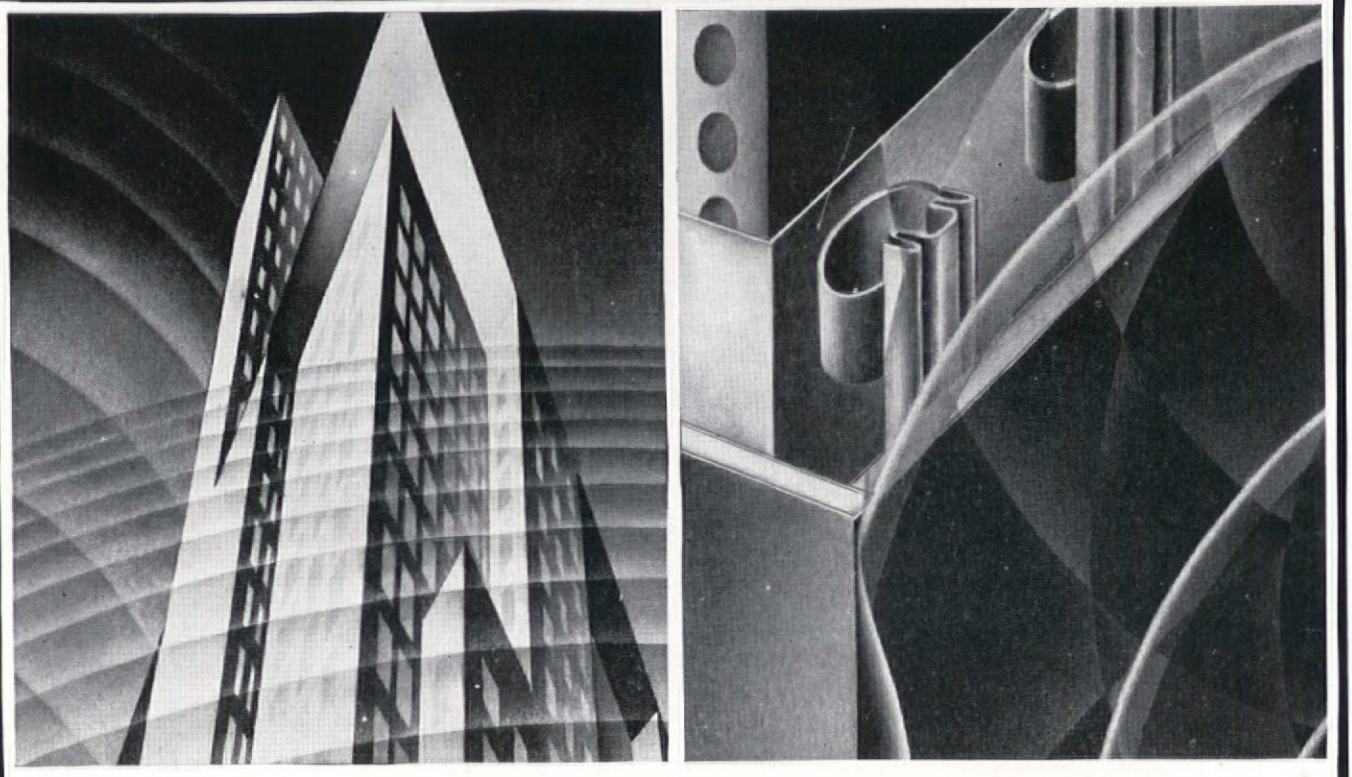


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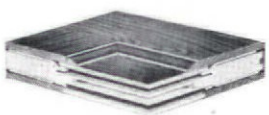
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- Used alone for film coating, or in conjunction with fabric membranes for built-up membrane protection.
- Freedom from mineral suspending agents and inert fillers. No ingredient impairs ductility, bonding or imperviousness of the finished coating.
- Useful properties fully retained. No beneficial physical properties of the asphalt are impaired or permanently lost as when asphalt is dissolved by a "cut-back" process, or mixed with fillers that have no protective qualities.
- Not "reversible" after thoroughly drying.
- Very stable. Long storage produces no appreciable sedimentation or separation.
- No flammable or toxic fumes. No dangerous solvents to evaporate and create fire hazard and endanger health in unventilated locations.
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- Efficient and permanent. Apply uniformly, set readily, dry in a few hours and thereafter thoroughly resistant to temperature changes, water, acids, alkalies, etc. The finished coating remains continuous, elastic and will not crack, creep or flow under ordinary exposure conditions.
- High asphalt content and resistance to destruction by freezing are outstanding exclusive features of Headley Emulsified Asphalts.

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UNDER THE AUSPICES OF

THE AMERICAN INSTITUTE OF ARCHITECTS

THE ARCHITECTURAL LEAGUE OF NEW YORK

WITH THE ENDORSEMENT OF

THE SOCIETY OF BEAUX-ARTS ARCHITECTS

THE NEW YORK BUILDING CONGRESS

APRIL 18 - APRIL 25, 1931

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The Fourth Biennial Architectural and Allied Arts Exposition will mark an important epoch in architectural history as it will commemorate the Fiftieth Anniversary of the founding of the Architectural League of New York. Fifty years of service--during which time American architecture has had its greatest development.

The exposition will furnish an exceptional educational opportunity to the public by establishing under one roof a visual contact with the latest devices and materials entering into the construction of the home and its decorative embellishment. This unique exposition will be correspondingly instructive to the building trades and the technical professions, tending to develop a better understanding through the creation of an opportunity for a thoroughly comprehensive survey of the latest and most up-to-date appliances which the Manufacturers of America have created and placed at the disposal of the building industry.

In view of the general interest and educational stimulus which such an exhibition must encourage and foster, representing as it does the superlative expression of the fine arts on one hand, and their practical application to the every-day life of our people on the other, the general interest in the Architectural and Allied Arts Exposition will be far-reaching in its effects. Because of the increased appreciation certain to follow this display of vital inventive and constructive elements presented by the manufacturers and builders of modern times, tending toward the improvement of taste and the development of better and more beautiful buildings throughout the land, it is anticipated that the responsive cooperation of exhibitors will be spontaneous. It is felt that this enterprise representing the combined effort of Art and Industry, will be of the greatest inspirational influence throughout the whole country.

Raymond M Hood

President,
The Architectural League of New York.

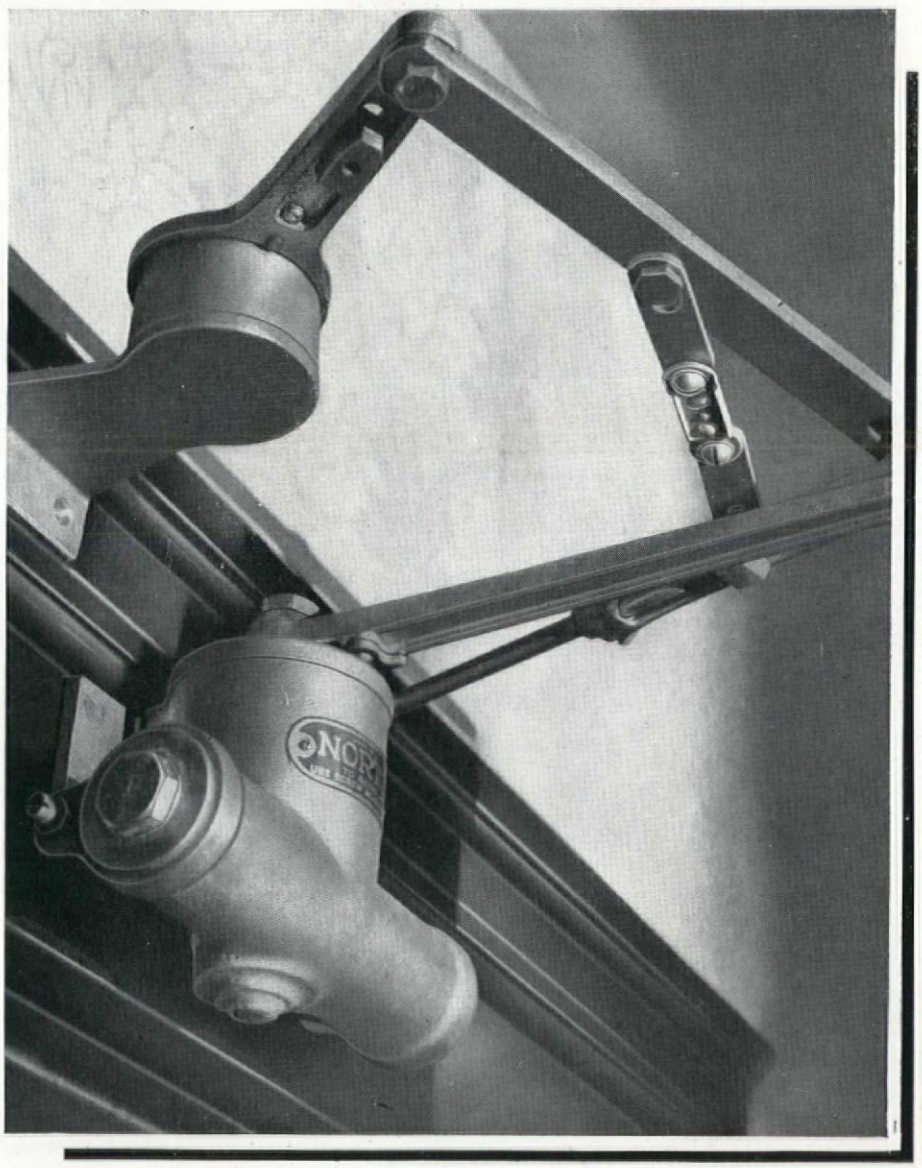
FIFTIETH ANNIVERSARY

1881 THE ARCHITECTURAL LEAGUE OF NEW YORK 1931

FIFTY YEARS OF SERVICE

The *only* Fire Door Closer with Underwriters' approval for use on self-closing fire doors NORTON

Style No. 1



FOR use on fire doors that swing on hinges, the Norton Fusible Link Door Closer automatically closes the door when a temperature of 160 degrees Fahrenheit is reached.

Equipped with an auxiliary spring and hold open arms, the NORTON has increased closing power when the link fuses, thus assuring that the door will be held firmly against heat expansion, as well as swift closing action.

The NORTON is designed to hold the door open at about 100 degrees, and to use only ordinary spring power in the regular operation of the door. The NORTON fusible Link Door Closer, Style No. 1, is the only door closer with the approval of the National Board of Fire Underwriters Laboratories for use on automatic self-closing fire doors. Write for specifications.

See Sweet's Pages B2408-2412

NORTON DOOR CLOSER COMPANY
Division of The Yale & Towne Mfg. Co.
2900 North Western Avenue
Chicago, Illinois

NORTON DOOR CLOSERS



THE STERICK BUILDING, MEMPHIS, TENN.

Wyatt C. Hedrick, Inc., Architect, Fort Worth, Texas
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MEMPHIS, Tenn., can be justly proud of the recently-erected Sterick Building at Third and Madison Streets, one of the South's outstanding buildings. The interior surfaces — floors and trim — are enhanced and protected by the use of "61" Floor Varnish and "38" Preservative Varnish which possess maximum service qualities, as many architects, painters and owners know from long experience. What aid may the nearest P&L Architectural Service Department render you?

PRATT & LAMBERT-Inc., 108 Tonawanda Street, Buffalo, N. Y. (Phone Delaware 6000); 3301 38th Avenue, Long Island City, N. Y. (Phone Stillwell 5100); 320 West 26th Street, Chicago, Ill. (Phone Victory 1800). Canada: 28 Courtwright Street, Bridgeburg, Ontario.

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But Non-Slip in Any Weather

This stairway leads from Boylston Street, Boston, to one of the well-known Georgian Cafeterias. Its requirements are:

Safety in wet weather as well as dry,

Durability to withstand the wear of grit tracked from the street,

Appearance in keeping with the high decorative standards of the restaurant.

Alundum Aggregate in terrazzo is providing all three.



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FRITTED GLAZE
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NATCO
THE *COMPLETE* LINE *of*
STRUCTURAL CLAY TILE

OPENS NEW FIELDS IN COLOR COMPOSITION AND HARMONY

LOVELY cream tans and cream browns, beautiful luminous matt whites, lively midnight blacks, open new fields of color design to the architect. Natco Fritted Glaze Vitritile, with its wide range of harmonious color combinations lifts from the architect, in the construction of interior and exterior walls, the color restrictions that practical considerations heretofore imposed.

A Scientific Process Pledges Permanence to You

Natco Fritted Glaze Vitritile is made by a special process which represents a triumph of the ceramic art. The added care, the added cost of this exacting method bears fruit by giving a glaze the equivalent in beauty and permanence of that of the finest English Glazed Brick. Inside or out, the glaze is immune to dirt, grease, chemicals, and the attacks of the elements. It is easily cleaned and kept clean, assures that the structure will stand as a permanent and beautiful tribute to the skill of its designer.

If you have not received literature giving complete information on this outstanding new development, please write at once, and it will be sent you.

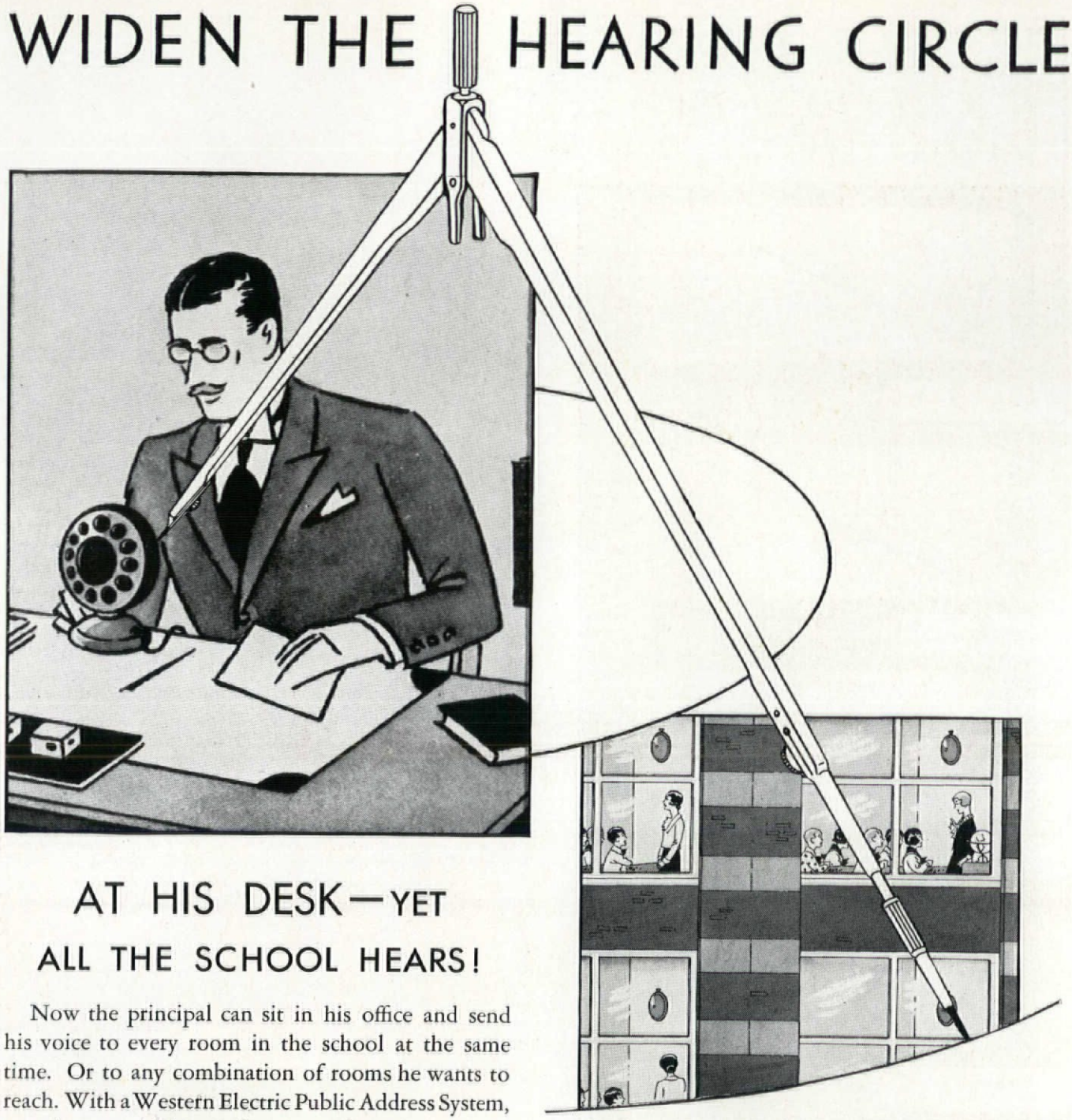


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WIDEN THE HEARING CIRCLE



AT HIS DESK—YET ALL THE SCHOOL HEARS!

Now the principal can sit in his office and send his voice to every room in the school at the same time. Or to any combination of rooms he wants to reach. With a Western Electric Public Address System, exercises, special instruction, general announcements can be given without interrupting class room work for extra auditorium sessions.

Here is a system — that amplifies and distributes sound transmitted into a microphone. Realizing its wide application, architects are including Public Address equipment in their specifications for schools, hotels, hospitals, city halls and other public buildings.

Public Address equipment also serves auditoriums, and Western Electric acoustic engineers are at your service in helping you with your plans or with your actual installation.

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Gentlemen: Please send information regarding the Public Address System — also Architects' Specification Folder.

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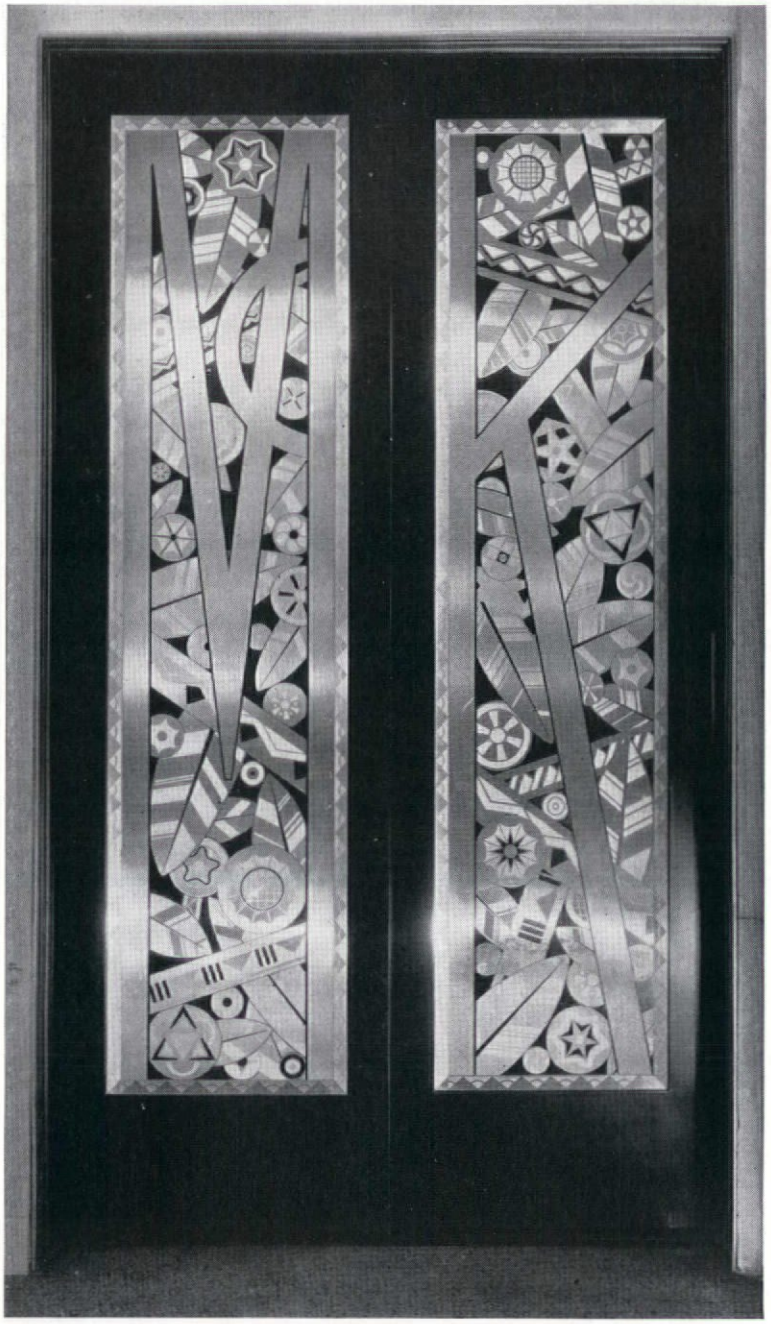
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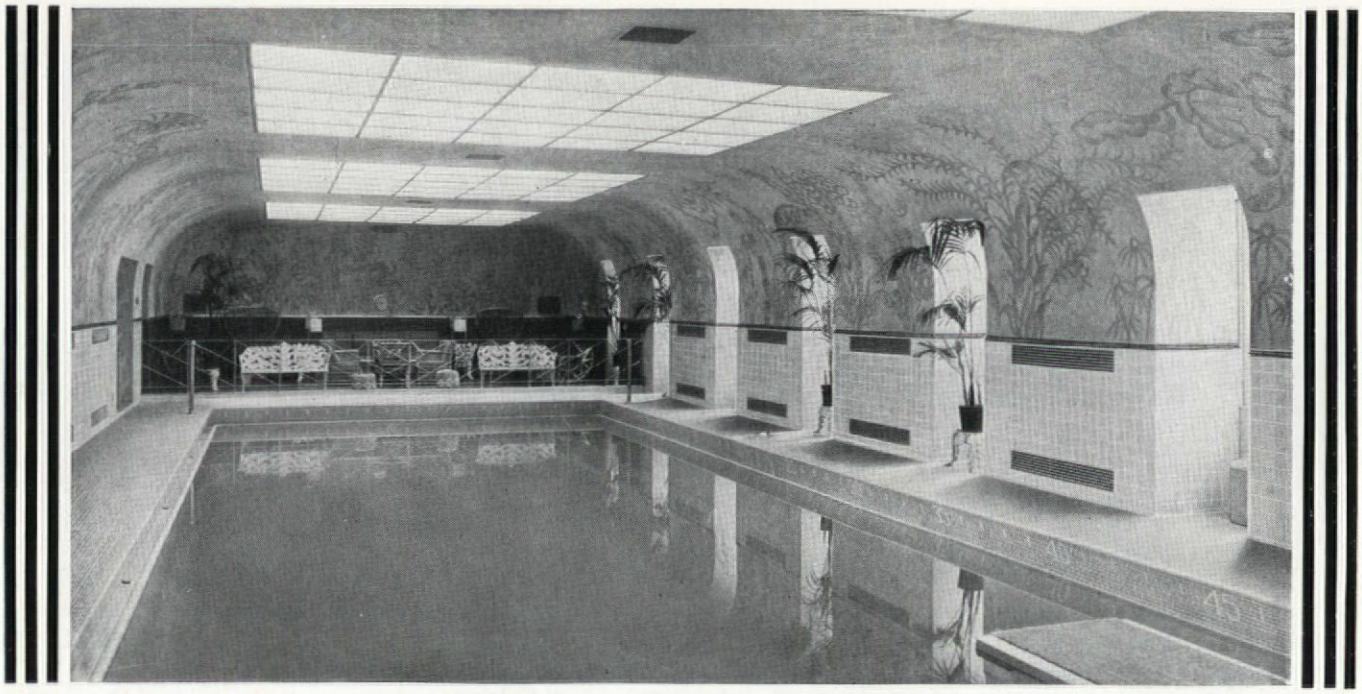


Specify THORP DOORS

This strikingly modern elevator enclosure in the McKnight Building, Minneapolis, was designed by Hewitt and Brown, Inc., Architects. The design is worked out in etched nickeled silver on a black background

The far-sighted owners of the McKnight Building believe in keeping pace with the competition of newer structures. Realizing that the lobby gives the most important impression of the building, they had Hewitt and Brown, Inc., design new elevator enclosures for the ground floor. The Thorp Organization made the doors with their usual skill and attention to the architects' specifications. The resulting effect imparts a new atmosphere to the entire building.

THORP FIRE PROOF DOOR COMPANY MINNEAPOLIS, MINN.



Architect: JOHN RUSSELL POPE—Tile Contractors: DePAOLI DEL TURCO FOSCATO CORP.

The Junior League Swimming Pool

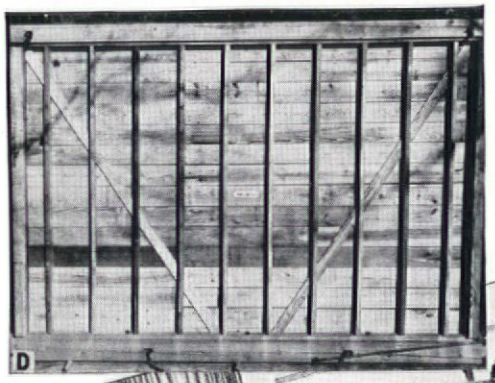
in New York, is a study in lights and shadows...like a sheltered pool in a tropical Utopia...a decorative masterpiece achieved by John Russell Pope, with Robertson Planatile and Chromatex. The pool and the runway are of Robertson Chromatex...non-slip, impervious and easily cleaned. The wainscot treatment in a characteristically feminine pink is accented with one of Robertson's latest innovations, the setback cap glazed in silver. This is an ideal combination for such an indoor pool. Supplementing Robertson's Planatile and plain tile with Chromatex offers the architect many possibilities for originality. Chromatex is available in a wide range of colors and textures. The finest and largest swimming pools in famous institutions are made of Robertson Tiles . . . also many smaller pools in private homes. From the first tiled pool in America to the most costly in New York is the spread of Robertson's experience, and these facilities are offered to architects in the development of any swimming pool project. Descriptive literature is available for your files. Special information on request.

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Government Tests disclose

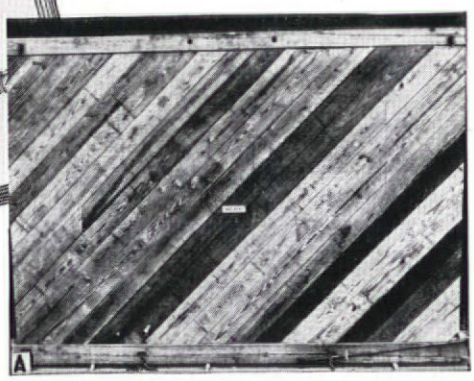
New Facts about Lumber Framing



Horizontal sheathing braces of let-in strips increase stiffness as compared to the horizontally sheathed wall 2½ times to 4 times, and the strength about 3½ times.



The Tree Mark signifies that the lumber is "American Standard Lumber from America's Best Mills" . . . that all lumber so marked is exactly as indicated.



Ordinary stud and plate walls sheathed diagonally are 4 to 7 times as stiff and 7 to 8 times as strong as if horizontally sheathed.

WHAT type of wood wall is best suited for sections of the country subject to tornados . . . . hurricanes? Is diagonal sheathing really stronger than horizontal sheathing?

For years these questions, and many others, have interested architects charged with designing permanent, rigid structures. Definite answers are given by a series of *actual tests* just completed.

The U. S. Forest Products Laboratory built nearly fifty frame walls of full story height and submitted them to exacting tests. The whole story of how they reacted is told in an interesting booklet, "Stronger Frame Walls." This book answers many questions about the strength and rigidity of frame walls . . . . develops many new and startling facts.

The National Lumber Manufacturers Association, sponsor of Tree Mark lumber that is guaranteed to be exactly as stamped by the expert grader, will send, on request, a free copy of this amazing booklet. Mail the coupon today.

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National Lumber Manufacturers Association
Dept. 6010, Transportation Bldg., Washington, D.C.

Gentlemen: Please send me the free booklet, "Stronger Frame Walls."

Name_____

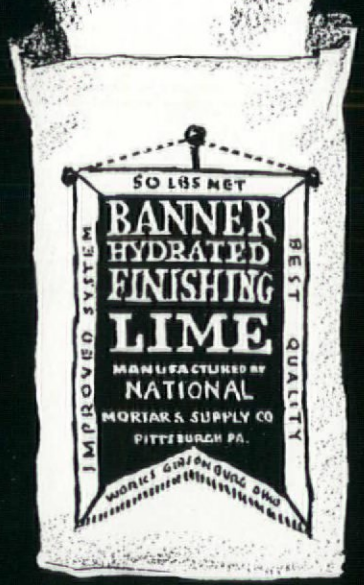
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AIR SEPARATION

Blowing away little trouble makers is the final step in purifying Banner Finish. The tiny underburned and overburned particles of lime are eliminated by air separation before Banner is sacked for shipment. They are taken out to avoid troublesome pitting and popping which spoil so many jobs. Air separation is just one of the several operations which make Banner Lime so highly satisfactory for finish coat, brown coat and scratch coat.

NATIONAL MORTAR & SUPPLY CO.
PITTSBURGH
Charter Member Finishing Lime Assn. of Ohio



SACKS OF SATISFACTION



Banner Lime
FAMOUS OHIO FINISH



Quality Credit Clothing Company, Milwaukee, Wis. H. V. Millier Architect. This building is equipped with DESCO STORE FRONTS.

For Good Display Windows

To achieve display windows that suit the needs of every tenant, good store front construction is necessary. Desco Store Fronts are so often used because they are handsome in appearance and set off all shop displays to best advantage. Made in a wide variety of metals, including solid copper (plain or embossed), solid bronze in all standard finishes and aluminum alloy, they harmonize with every building design. Then, too, their flexibility protects the glass against abnormal wind pressure. These features make Desco Store Fronts preferred by architects and building owners alike.

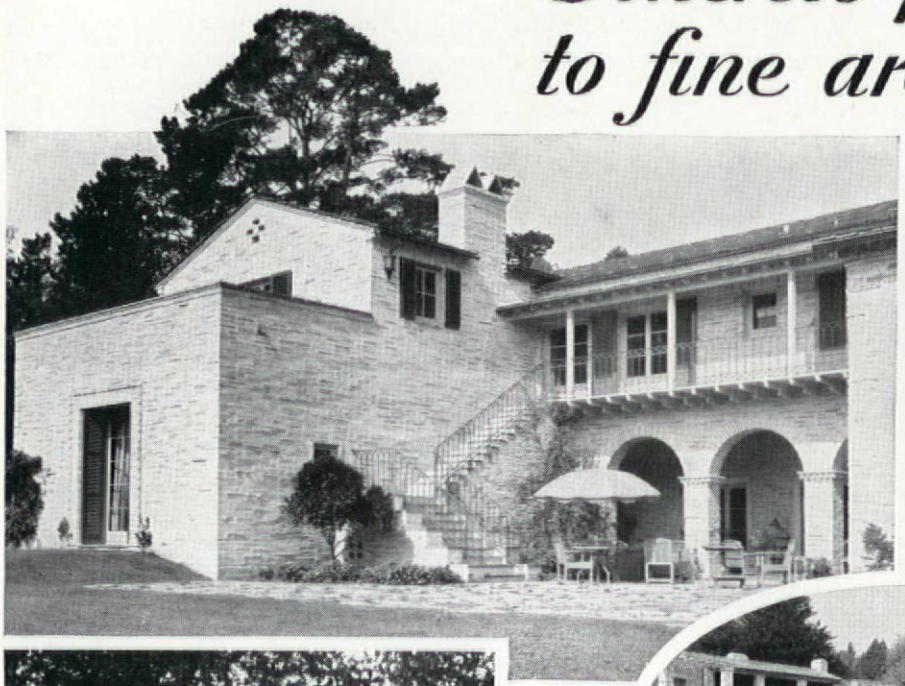
For full architectural details see Sweet's catalog. Write us for complete working data and price list. Remember, too, wherever you are there is a distributor near you. We also carry a complete line of "Desco" construction material in our New York City Warehouse.

DETROIT SHOW CASE CO.
1670 West Fort Street · Detroit, Michigan

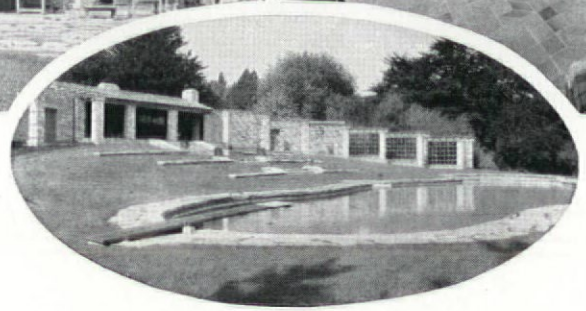
New York City Office and Warehouse—344-346 East 32nd Street
Pacific Coast Office—450 Skinner Building, Seattle, Washington

Desco METAL REG. U.S. PAT. OFFICE STORE FRONTS

Concrete pays tribute to fine architecture



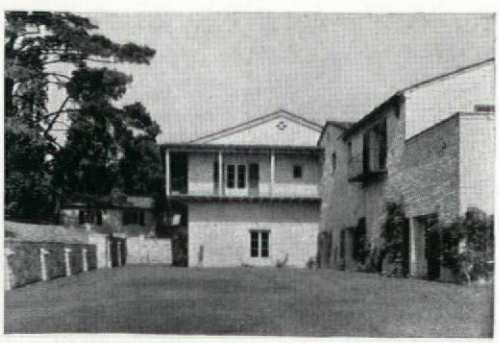






CONCRETE, in many forms, has been skillfully employed by the architect in designing this home. The exterior walls are of concrete masonry units, in slightly irregular sizes and varied colors. Building frame and floors throughout are of reinforced concrete—*one unit,* of utmost strength and rigidity. The roof is attractively tiled. So constructed, a home is *firesafe* and long enduring.



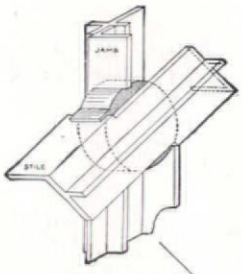


The views on this page are of a home that is distinguished in both architecture and construction—the home of Robert B. Henderson, in Hillsborough, California. Gordon B. Kaufmann, Los Angeles, Architect; Dowsett-Ruhl Company, San Francisco, Contractors

PORTLAND CEMENT *Association*

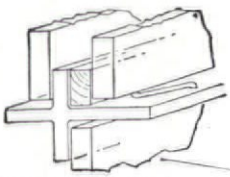
Concrete for permanence and firesafety

33 W. GRAND AVENUE
CHICAGO

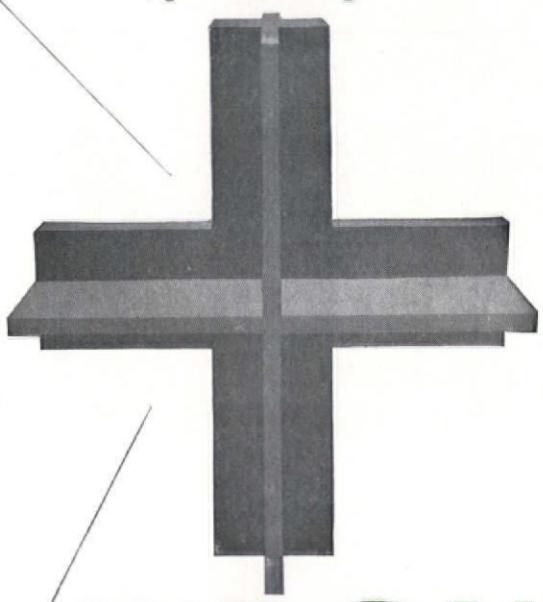


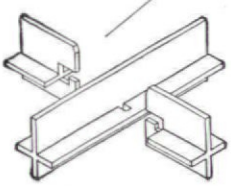
A triumph in pivot design.

Mark well these outstanding and exclusive facts regarding the one and only sash fabricated of genuine wrought iron. Sash, for the first time, replete with special advantages of design overcoming all faults common to metal sash as previously known. Achieved through the employment of the remarkable structural possibilities presented by the Mesker cruciform rolled bar in a metal having as an historical characteristic exceptional resistance to the corrosive factors commonly present where extra heavy duty sash is required. An especially vital point—the pivot—is here done in white brass and malleable iron in cup style. Freedom from weaving—smooth, positive hinge action during the life of the building!



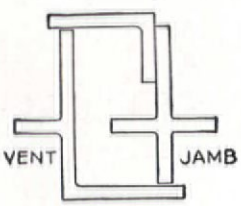
The remarkable cruciform bar permits inside, outside or double glazing.





All joints are made mechanically true and fast then electrically welded.



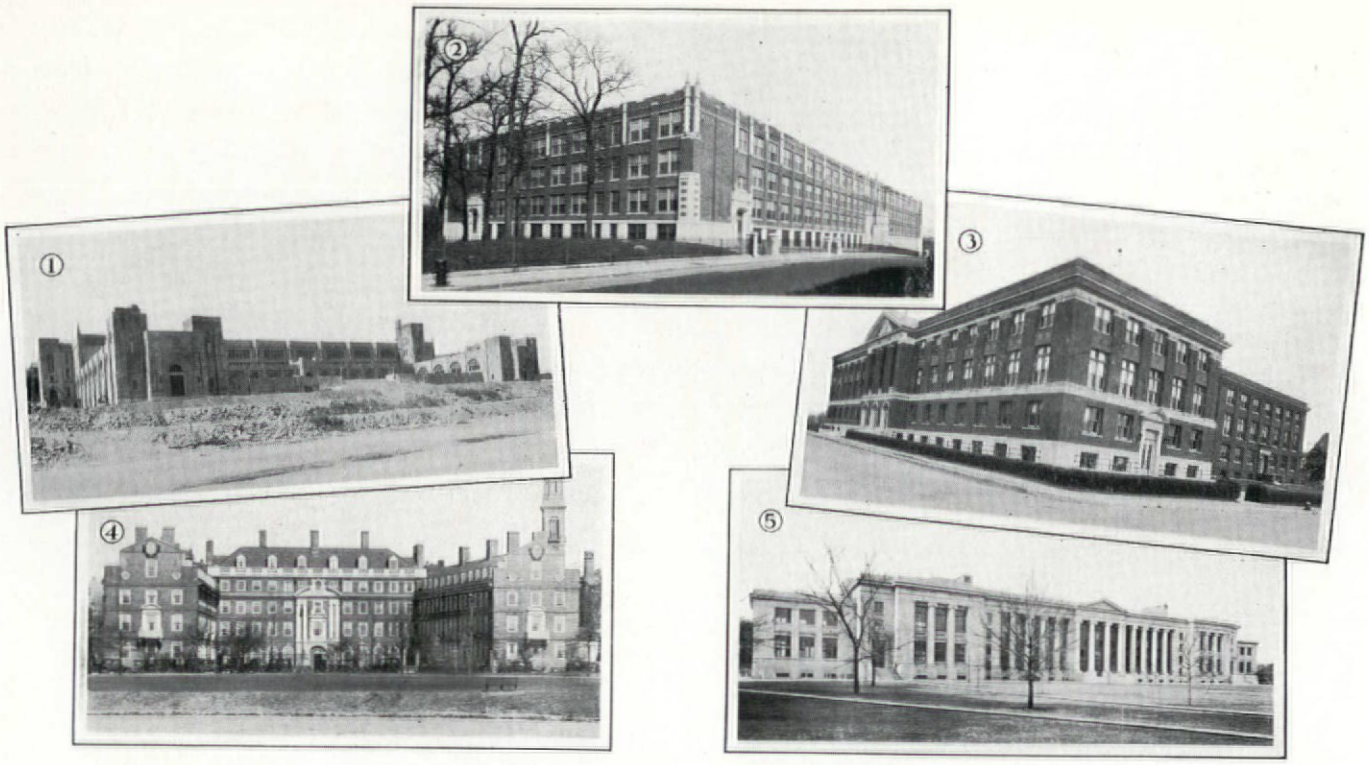


Unique all-around double contact jamb section.

WROUGHT IRON SASH

Mesker

MESKER BROS. IRON CO., ST. LOUIS, MO.
Wrought Iron Window Sash Originators



Around Boston–

Beans ≈ Brains ≈ Bryant

1. *Brighton High School, Brighton, Mass. Architects: O'Connell & Shaw, Boston. Electrical Contractors: M. B. Foster Electric Co., Boston.*

2. *Memorial High School, Roxbury, Mass. Architect: Harry N. Atwood, Boston. Electrical Contractors: M. B. Foster Electric Co., Boston.*

3. *Marine Biological Laboratory, Woods Hole, Mass. Architects: Coolidge, Shepley, Bulfinch & Abbott, Boston. Electrical Engineers & Contractors: Hixon Electric Co., South Boston.*

4. *McKinlock Hall, Harvard University. Architects: Coolidge, Shepley, Bulfinch & Abbott, Boston. Electrical Engineers & Contractors: Hixon Electric Co., South Boston.*

5. *Langdell Hall, Harvard Law School. Architects: Coolidge, Shepley, Bulfinch & Abbott, Boston. Electrical Engineers & Contractors: Hixon Electric Co., South Boston.*

THEY all go together. Note the type of educational institutions illustrated. These, recently constructed, are all "Bryant Equipped", for in such buildings, as in commercial buildings, homes, hotels, hospitals, manufacturing plants, proper lighting and the proper control of lighting are now considered of paramount importance. In Boston, as in most cities, you'll find that the architects and engineers responsible for the more notable buildings have specified and insisted upon the use of Bryant switches, receptacles and other wiring devices.

You should have our Catalog No. 30 on file.
If you have not received a copy, write us for it.

A:10

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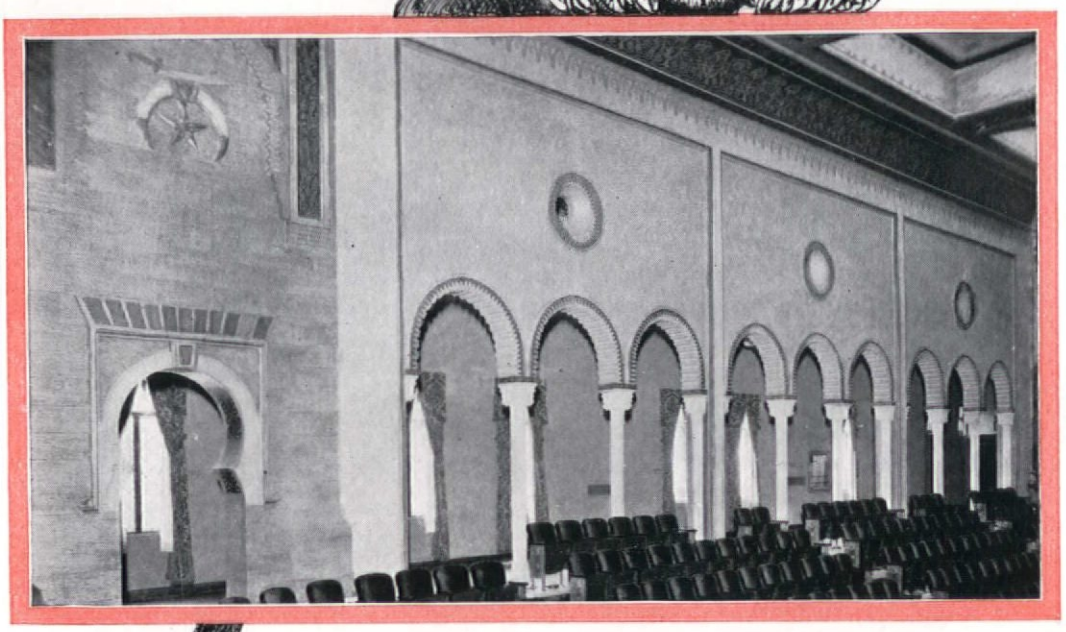
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MANUFACTURERS OF "SUPERIOR WIRING DEVICES" SINCE 1888 - MANUFACTURERS OF HEMCO PRODUCTS

"Spreads like warm butter"





Tiger "FOOTPRINTS" Individualize Interiors

Unquestioned individuality characterizes building interiors which bear the imprint of our symbolized Tiger's tread. His "Footprints" (ceiling and wall finishes and textures) impart a distinctive, artistic atmosphere that instantly commands serious consideration and respect. ❖ ❖ ❖ In this age of exceptional architecture, more and more of the famous Tiger Finishing Lime is being used to individualize the walls and ceilings of America's finer structures.

Another Tiger Job

CRESCENT TEMPLE, A. A. O. N. M. S., Trenton, N. J.

Architect—W. Hankin, Trenton, N. J.

Plastering Contractor—General Contracting & Construction Co.

Tiger Finish used exclusively

The KELLEY ISLAND LIME & TRANSPORT COMPANY

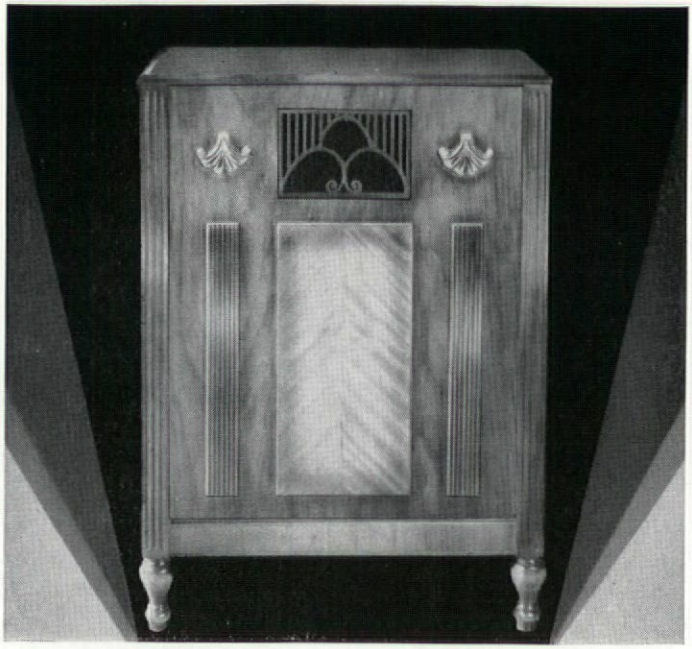
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LEADER BUILDING ∴ ∴ CLEVELAND, OHIO

The Famous TIGER FINISH

And—Tiger Mason's, Tiger Agricultural, Tiger Chemical, Tiger All-Purpose Hydrate in 10-lb. packages, and High Calcium and Magnesium Lump Limes. Also Quickslake (ground quicklime) in paper-lined jute sacks.

. . . HUMIDITY CONTROLLED as completely and automatically as Temperature . . .



THE necessity of supplying additional moisture to heated air during the winter months is no longer debated. Simply adding moisture, however, does not solve the problem. Diffusion of this moisture is necessary. The recirculation of air must be considered. The air washing factor must not be overlooked. If an ideal, effective temperature for the promotion of health and comfort is to be maintained, the production of humidity must be placed under as positive control and within as close a range as that of heat.

Lewis Air Conditioners produce humidity in a vaporous, gaseous form—thus diffusion is rapid and complete. No free particles of moisture are discharged into the air. Recirculation is assisted. All air is washed in passing through the humidifying section of the various units. Most important is the patented Lewis Humitrol which places the production and maintenance of any desired relative humidity under positive control. The Lewis Humitrol used with Lewis Air Conditioners regulates humidity *accurately* and *positively*.

Lewis Air Conditioners are used with hot water or steam heating systems. A special, low priced, non-motorized unit (illustrated above) has been perfected for steam heating systems. Other models are equipped with silent motor and fan. Cabinets housing Lewis Air Conditioners are of selected woods or of fine furniture steel finished in grain and color to harmonize with interior finish. Units may be concealed in the wall to conform with modern concealed radiation or may be located in the basement.

A booklet "Controlled Humidity and Human Comfort" pointing out the advantages of air conditioning, together with full details describing the several Lewis Air Conditioners will be sent gladly upon request. The Lewis Corporation, 813 Second Ave. So., Minneapolis, Minn.

● To the right is shown the patented Lewis Humitrol. Looks like a thermostat, acts like one. You merely set this Humitrol for the relative humidity you wish to maintain. The entire operation of the Lewis Air Conditioner is governed by this control. Humidity is regulated as completely and automatically as is temperature by the use of a thermostat. Full Humitrol details upon request.

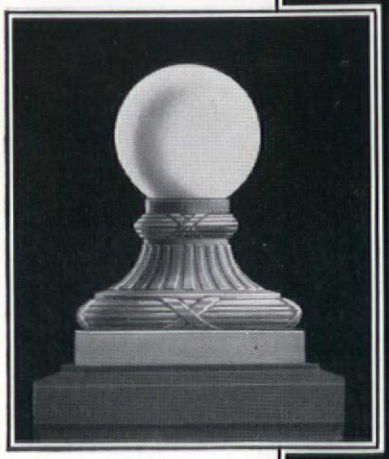


● AGGRESSIVE DEALERS WANTED ●

The possibilities for profit in the new field of air conditioning are unlimited. Inquiries are invited from aggressive dealers who wish to get in on the ground floor of this new development. Some good territories open. Write for complete information.

LEWIS AUTOMATICALLY · CONTROLLED · AIR CONDITIONERS

BRONZE—Standards, Newels, Brackets—IRON



Design No. 1668



Design No. 739

EVERY BUILDING ENTRANCE Should be LIGHTED . . .

NOT only in the interests of safety but from an architectural viewpoint, building entrances deserve ornamental lighting.

Entrance standards, brackets or newels, add much to the appearance, but little to the cost of a building.

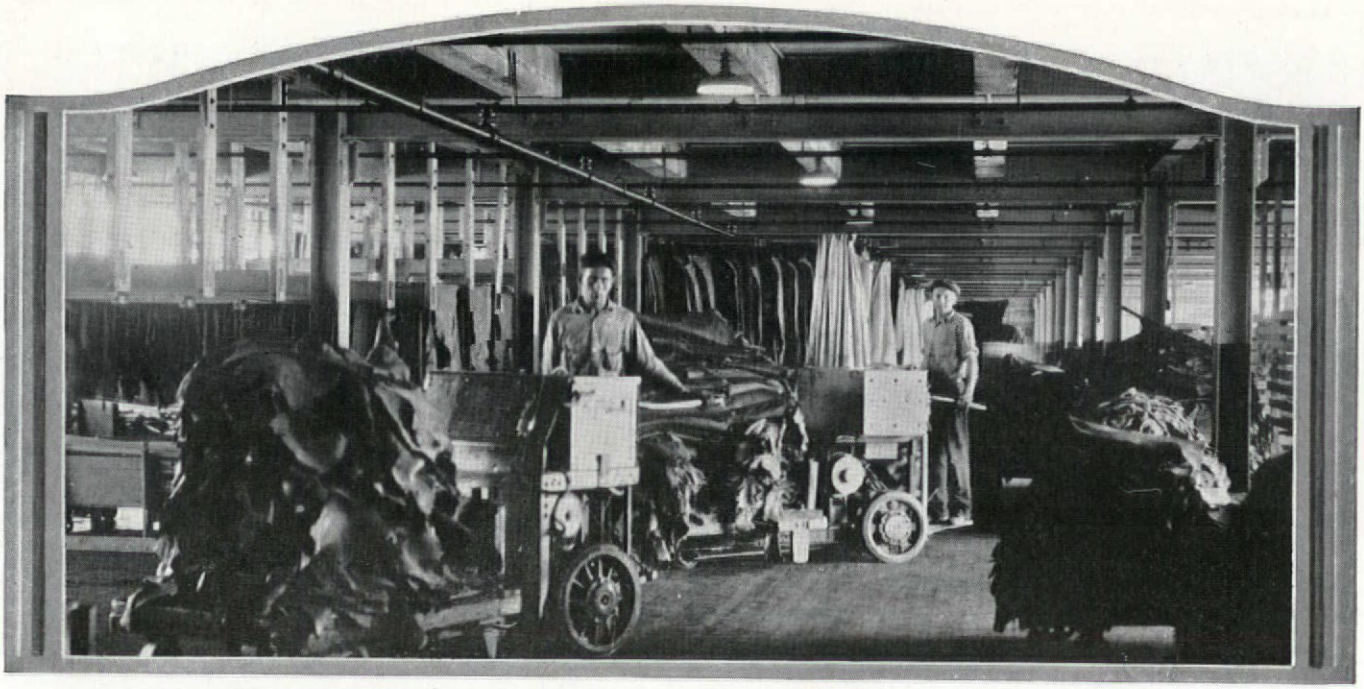
Union Metal has developed a complete line of exterior lighting fixtures, including designs for almost every type of service. These fixtures are available in either cast iron or bronze.

Where special fixtures are required, Union Metal craftsmen work from the architect's rendering and promise a faithful reproduction of the original conception.

Write for complete information on either stock or special designs.

THE UNION METAL MANUFACTURING CO.
GENERAL OFFICES AND FACTORY ◆ CANTON, OHIO
SALES OFFICES: New York, Chicago, Cleveland, Boston
Los Angeles, San Francisco, Seattle, Dallas, Atlanta

UNION METAL
EXTERIOR
LIGHTING FIXTURES



A Trucking Floor of "Table-Top" Smoothness

The photograph above shows a Bloxonend Floor in the main finishing loft of the Elkland Leather Company, Elkland, Pa. Area --- 15,000 sq. ft. laid over a sub-floor of 2-in. splined fir plank. This BLOXONEND order resulted from a test installation laid two years before.

The irregular shape and size of hides transported on lift trucks makes secure stacking difficult. To permit capacity loading without danger of spillage and delay (due to vibration) a floor of "table-top smoothness" was required. *Durability* was also a requisite to withstand continual trucking.

BLOXONEND FLOORING is as accurately milled and scientifically kiln-dried as the wood used in the finest pianos. Sanding is *not* necessary to bring it to a smooth surface. Shrinkage or expansion negligible. No tar or pitch binder used.

Dovetailing small blocks of Southern Pine endwise onto 8-ft. baseboards --- and laying with splines and nails (exclusive with BLOXONEND) insures *lasting smoothness.* That is one of the reasons hundreds of leading industrials have found it profitable to pay a higher first cost for BLOXONEND. Write for Architectural Specifications.

CARTER BLOXONEND FLOORING COMPANY
KANSAS CITY, MISSOURI
Representatives in Leading Cities

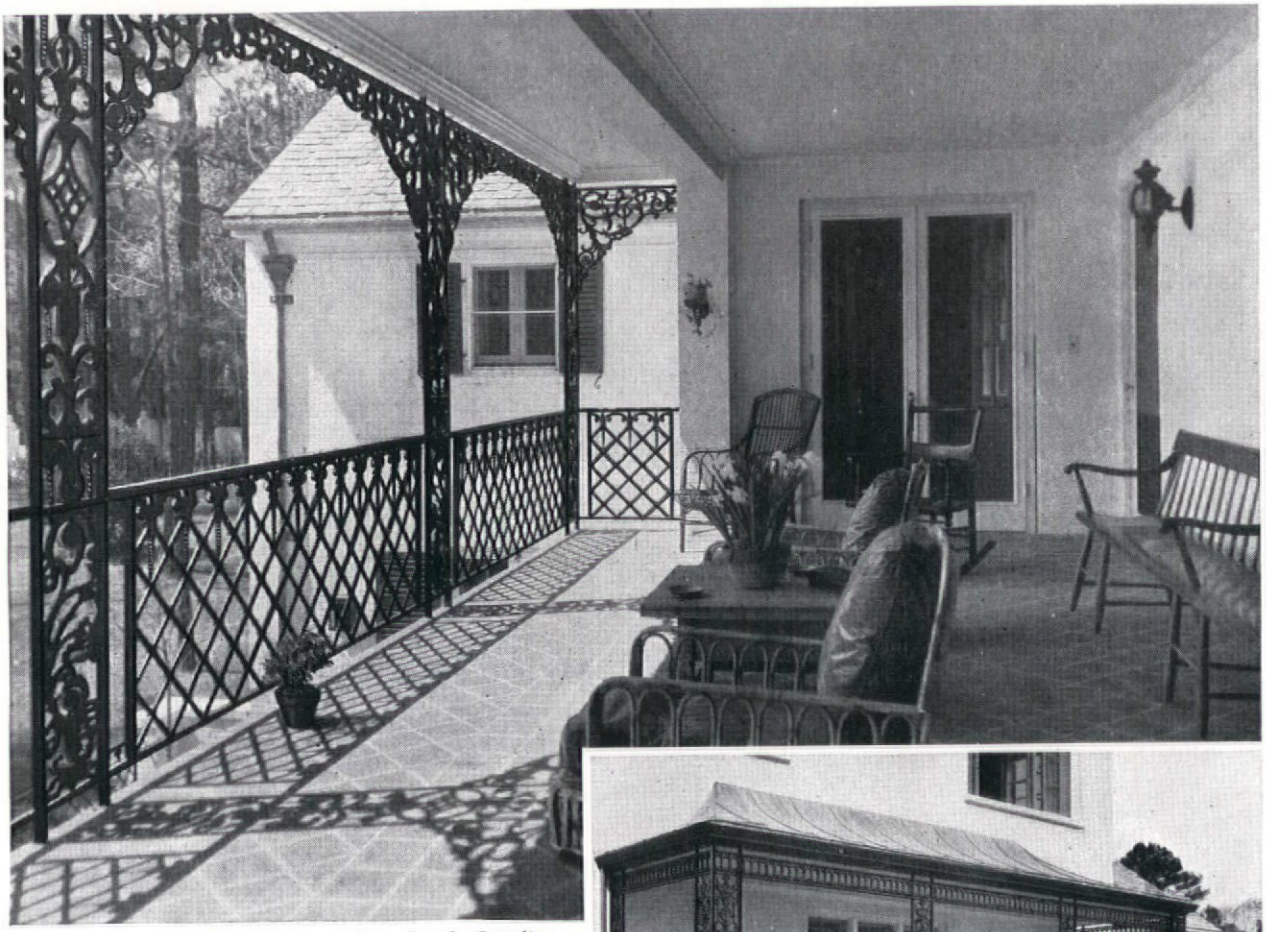
BLOX-ON-END FLOORING



Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dovetailed endwise onto baseboards

Lays Smooth
Stays Smooth

Bloxonend is widely used in shops and gymnasiums of finer type schools



Seymour H. Knox Residence, Aiken, South Carolina



Peabody, Wilson & Brown, Architects

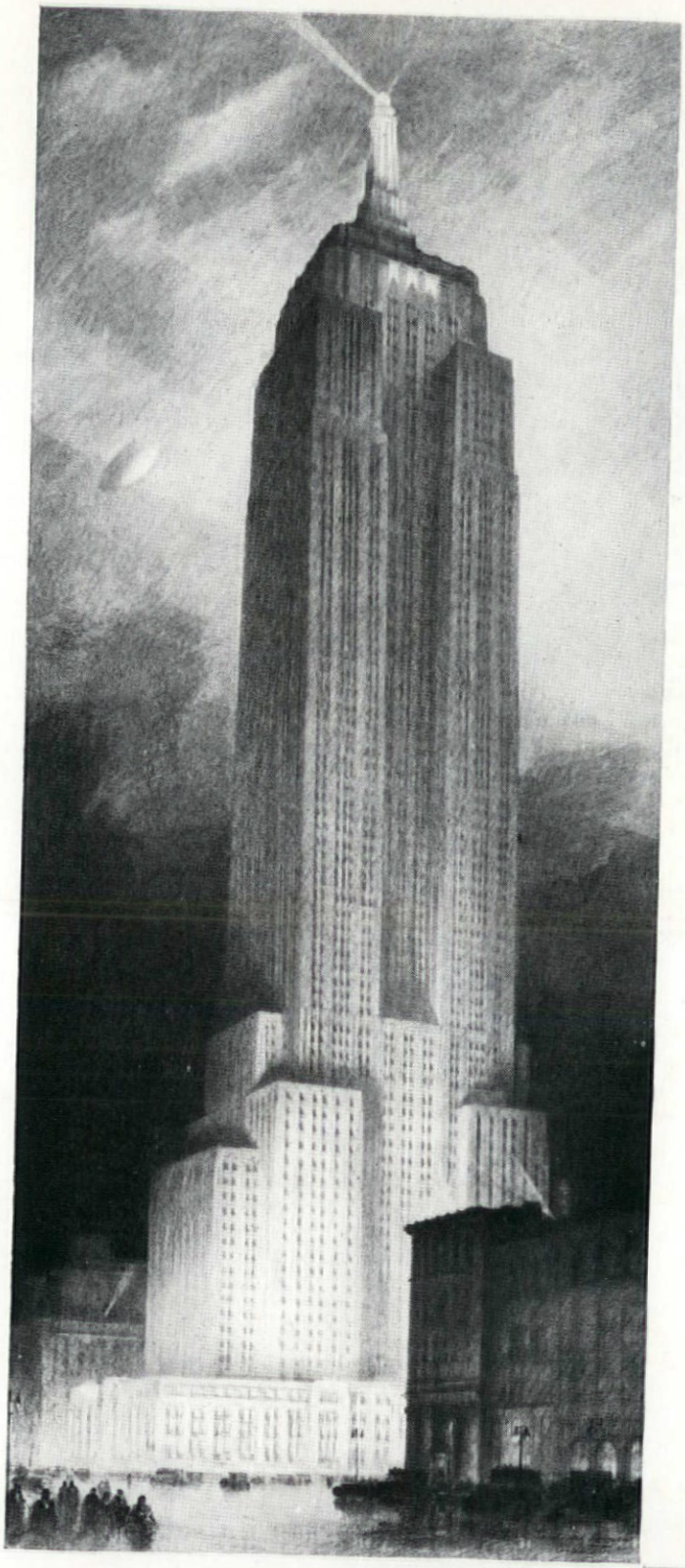
"Metal Work by FISKE"

THE Seymour H. Knox residence at Aiken, S. C., is one of many luxurious homes throughout the United States where the ornamental metal fittings have been executed by FISKE. The preference for FISKE is constantly growing among architects and especially among architects whose specifications always call for the *finest*. For they realize that to specify "metal work by FISKE" is to specify the *finest* in workmanship, materials and perhaps what is even more important—over 70 years of experience in close cooperation with architects and builders.

The FISKE organization maintains complete consultory and design services which are always available to architects interested in ornamental metal work. Write for illustrated catalogue.

J.W.Fiske IRON WORKS
80 Park Place ~ New York
ESTABLISHED 1858

SPECIALISTS IN ORNAMENTAL METAL WORK



EMPIRE STATE BUILDING
New York City

THE TALLEST BUILDING IN THE WORLD

This structure is on plot of 200 feet by 425 feet. Height from sidewalk to main roof 1050 feet,—85 stories,—Plus observation tower of 200 feet, making total height of 1250 feet.

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Subsidiary of United States Steel Corporation

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Constructed in 1930

SHREVE, LAMB & HARMON
Architects

H. G. BALCOM
Structural Engineer

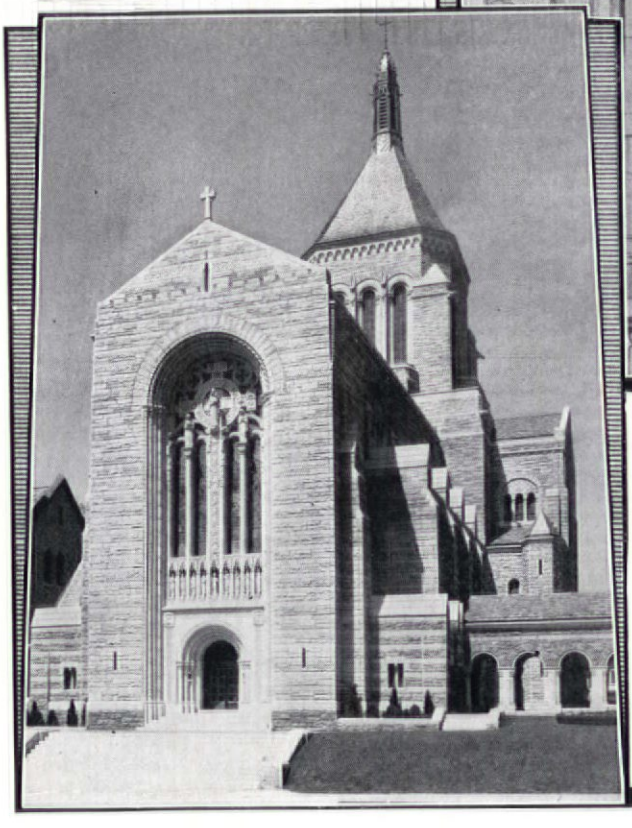
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THE CAST STONE PORTIONS OF THE CHURCH OF THE HOLY CHILD OFFER A NOTABLE EXAMPLE OF THE ADAPTABILITY OF THIS MATERIAL TO THE EXECUTION OF EXACTING DETAILS. IN COLOR AND TEXTURE THE CAST STONE TRIM HARMONIZES MOST PLEASINGLY WITH THE MT. AIRY GRANITE WHICH COMPOSES THE FIELD. THE INSPIRING BEAUTY OF THIS STRUCTURE IS A TRIBUTE TO THE SKILL OF ITS DESIGNERS AND BUILDERS AS WELL AS TO THE MATERIALS USED.





- THE · CHURCH OF THE HOLY CHILD
- PHILADELPHIA. PENNSYLVANIA.
- GEORGE I. LOVATT, F.A.I.A. ARCHITECT

THE CAST STONE INSTITUTE

- 33RD GRAND AVENUE, CHICAGO, ILLINOIS

MORE DAYLIGHT WITH LUSTRAGLASS

FLAT-DRAWN

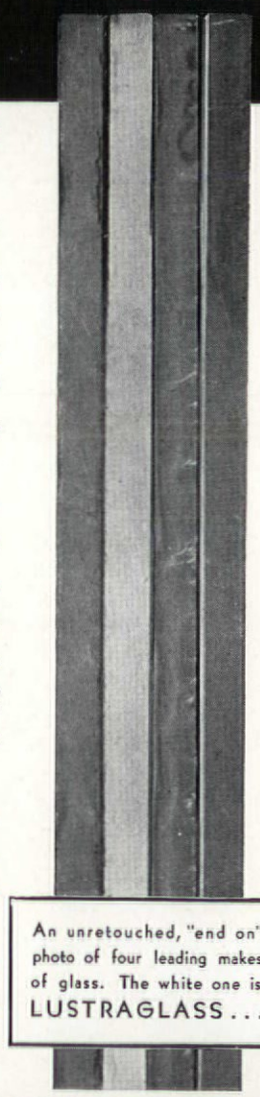
BECAUSE IT'S "WHITE"



IT takes a "whiter" glass to transmit more daylight . . . that is obvious. LUSTRAGLASS is the "whitest" of all glass made for windows . . .

Laboratory tests conclusively prove that LUSTRAGLASS transmits more daylight. It also transmits a substantial amount of the shorter ultra-violet rays of sunlight at a wave length of 313 mu.* yet it costs no more than ordinary window glass.

For schools, factories, homes, hospitals and office buildings, everywhere that human beings live, work or play indoors, LUSTRAGLASS is needed . . . Every building is more beautiful when glazed with LUSTRAGLASS, for LUSTRAGLASS is truly a superior product in every respect . . . flatter, clearer, more lustrous. Its appearance, alone, is ample reason for its selection by architects and builders, but a glance at the chart below will show why parents of growing children look for it in buildings which they buy or rent . . .



An unretouched, "end on" photo of four leading makes of glass. The white one is LUSTRAGLASS . . .

Write for LUSTRAGLASS BOOKLET A-430 and SPECIFICATION SHEET . . . SEE the complete table of ultra-violet ray transmission, then keep this literature in your file to show your clients.

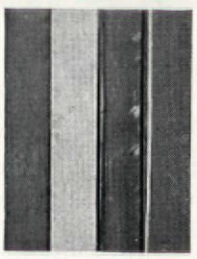
Send for LUSTRAGLASS BOOKLET A-430 and see complete table of transmission . . .



29 days growth of Tomato Plant under (1) LUSTRAGLASS (2) ordinary window glass.

AMERICAN WINDOW GLASS CO.

Also Makers of Armor-Lite Scatter-Proof and Bullet-Proof Glass, Tintaglass, Picture Glass, Photographic Dry Plate Glass, 3/16" and 7/32" Crystal Sheet, Ground and Chipped Glass, Improved Quartz-Lite and Bulb Edge Glass.



The label shown at the right appears on every light of genuine LUSTRAGLASS . . . Look for it. LUSTRAGLASS is packed with paper between the lights to prevent scratching or marring of the surface.



Farmers Bank Building **Pittsburgh, Penna.**

ORIGINALITY —*in a medium that encourages* ORIGINALITY



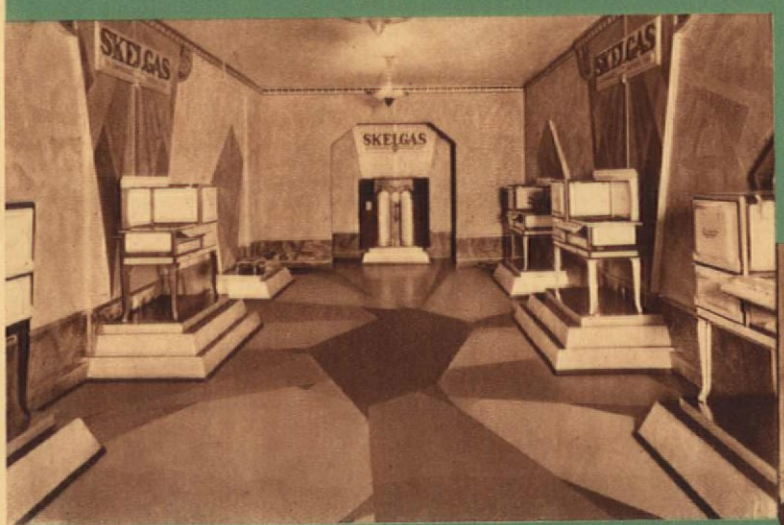
The adaptability of Sealex materials to interior decoration is well illustrated by this office reception room of the Walker Gordon Milk Co., New York City. That the unique Sealex floor was designed-to-order is unmistakable.

We think there is something at once challenging and inspiring about these pictures. You can't look at them for long without wanting to reach for a pencil and sketching paper. You feel an itch to try your hand at designing a floor or two of your own.

All right, go ahead. The only thing to remember is that *there are no rules.* No blue-laws. No inhibitions.

Because you are working in the world's most "workable" floor material. A sharp linoleum knife in the hands of a skilled mechanic can make *Sealex* Linoleum or *Sealex* Treadlite Tile as-

(*Continued on following page*)

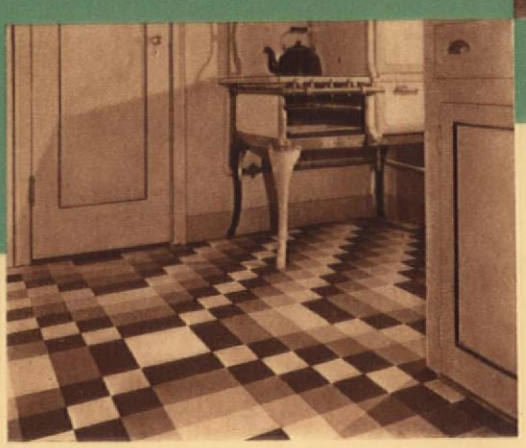


Modernistic floor of Sealex Linoleum above is carried out in Black, Dark Gray, Light Gray, Terra Cotta, and Green. A standard design for the chain of showrooms of the Skel-Gas Co.



An illustration of the effective use of a cut-to-order inset. Judicial placement of insets makes a pleasant departure from monotony.

Unusual kitchen floor design in Sealex Treadlite Tiles of several colors:—Mahogany Brown, Craft Brown, Fawn Gray and Colonial Buff.



BONDED FLOORS

Materials for Bonded Floors are manufactured by Congoleum-Nairn Inc.

(*Continued from preceding page*)

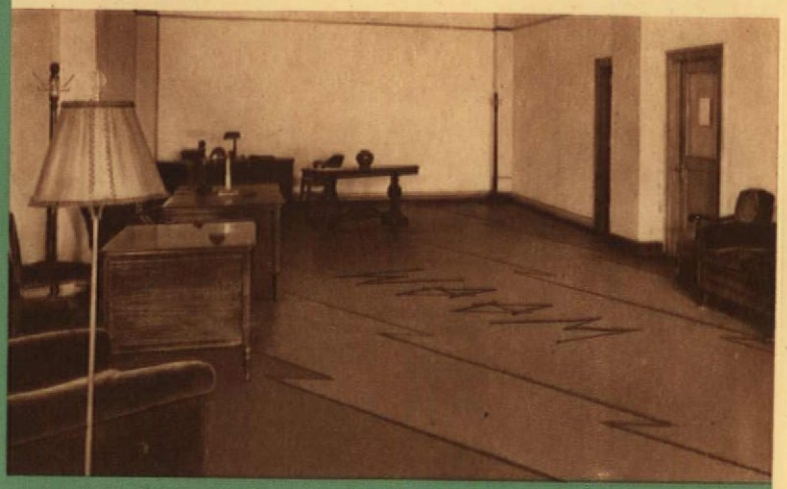
sume almost any two-dimensional form your mind can conceive.

So reach for that pencil and paper. The sky's the limit. Plan a modernistic floor for a smart shop. An office floor with the firm's trade-mark as part of the design. A formal "period floor" for a public building. A living room floor with the owner's hobby symbolized in the floor design.

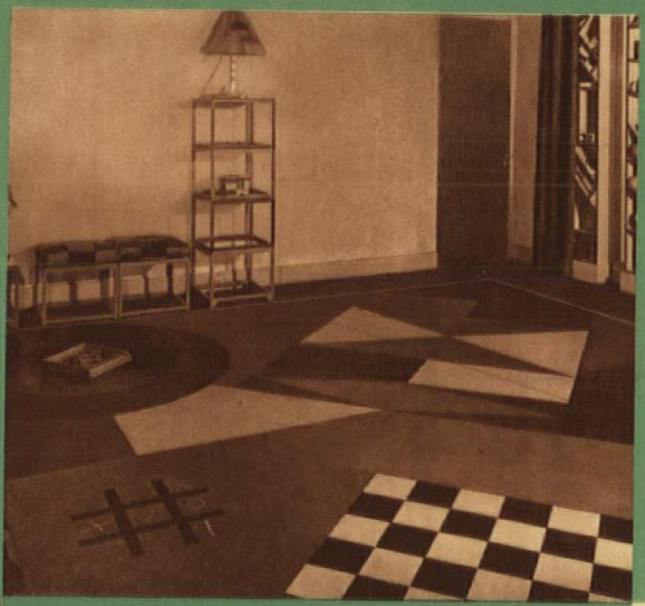
And when the time comes to carry out your conceptions, call in an Authorized Contractor of Bonded Floors. Those firms, as you can see by these pictures, have had specialized experience in this type of work. And their standards of workmanship are so high that we are able to back their floors with Guaranty Bonds against repair expense!

CONGOLEUM-NAIRN INC. *General Office:* KEARNY, N. J.

BONDED FLOORS



Floor design reflecting the character of a business. Reception room of Radio Station WAAM, Newark, N. J. Letters WAAM were cut from Sealex Linoleum and inset into the floor



An unusual type of game-board and floor combined, illustrating the versatility of Sealex flooring materials from a design standpoint.

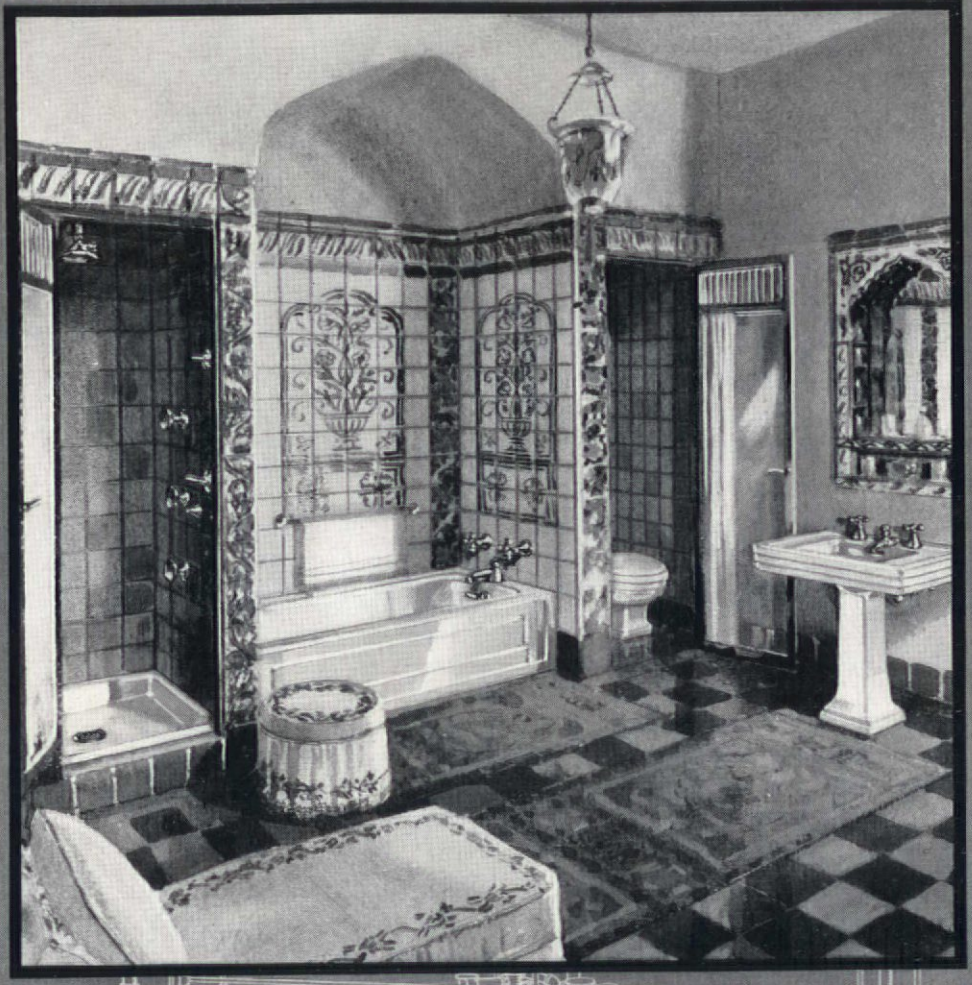


A modernistic dressing room floor in a custom-made design, cut-to-order from several colors of Sealex Treadlite Tile.

If, rather than prepare floor designs in your own office, you wish suggestions submitted to you, an Authorized Contractor of Bonded Floors will place his and our services at your disposal. Call upon us for estimates, specifications, samples or designs. No obligation, of course . . . . . .

SEALEX LINOLEUM
Stain proof Easily Cleaned
SATISFACTION GUARANTEED

1855 · SEVENTY-FIFTH ANNIVERSARY · 1930



Defining the true meaning of the word "chic"

Coined in Paris to express originality plus taste, the word "chic" has come to mean many things to many people. In London, swagger; in America, pertness; in Japan, genuineness. The original and lasting meanings are the ones contained in the undoubted chic of Crane bathrooms. Always, originality and taste are found in Crane fixture designs and decorative suggestions; genuineness in the service given. At Crane Exhibit Rooms you will find ideas for rooms as elaborate as the one above and others for the simplest cottage. Visit them. When possible, bring your client, showing him the actual fixtures. Complete installation can be on monthly payments under the Crane Budget Plan through a Crane Qualified Contractor-Dealer.

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When you want a specific face brick color and texture "or equal" won't do!



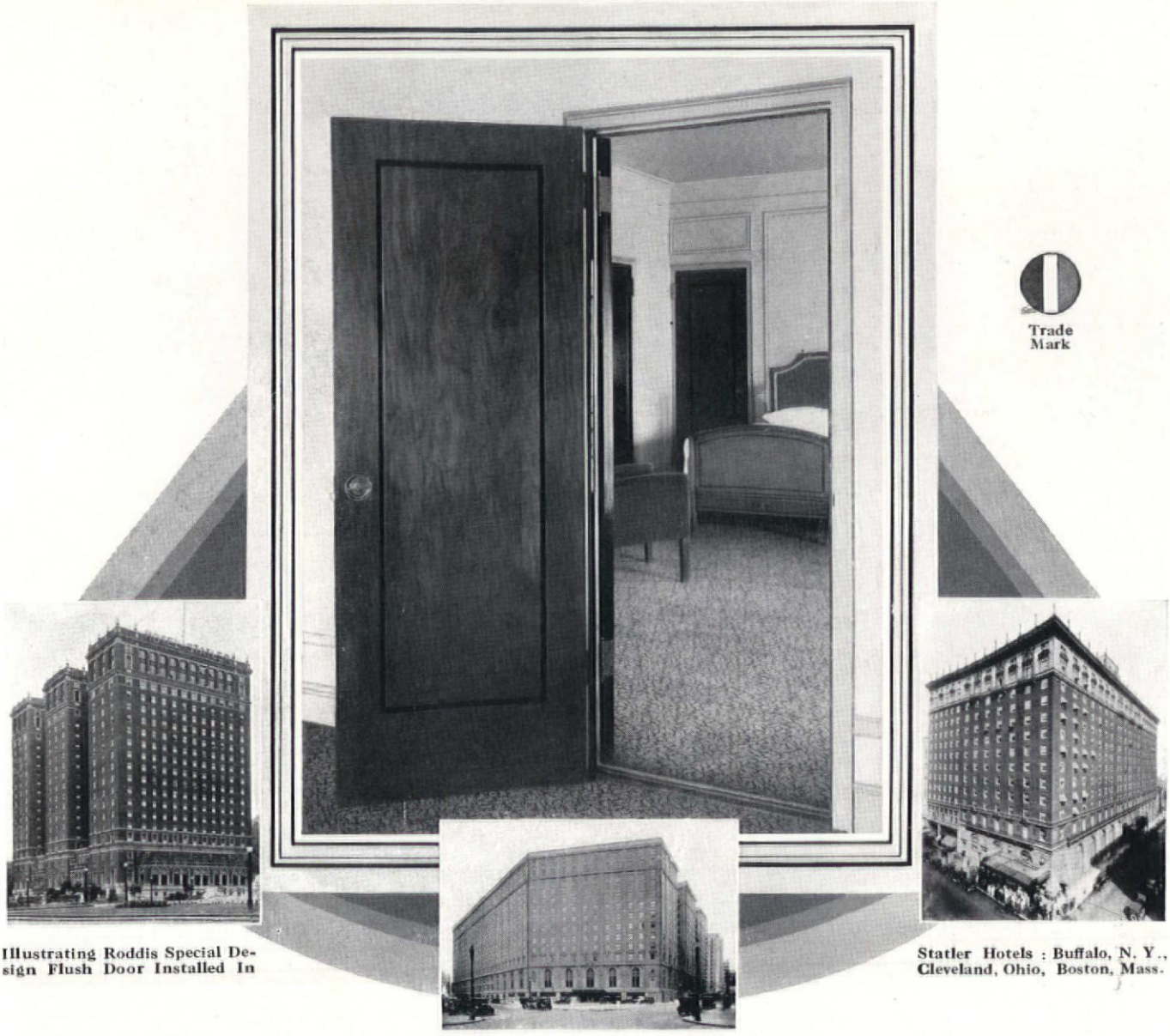
SEE OUR CATALOGUE IN SWEETS

SEE OUR CATALOG IN SWEETS pages A-406-410

Forestblend

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Trade Mark

Illustrating Roddis Special Design Flush Door Installed In Statler Hotels : Buffalo, N. Y., Cleveland, Ohio, Boston, Mass.

DOORS by RODDIS

The most modern door style and architectural expression are followed closely by Roddis; but the pioneer fundamentals and ideals of correct quality are not forgotten, nor is the sincerity of craftsmanship abandoned. Underneath the outward appearance of Roddis Flush Doors is truth in materials and manufacture; a practice and a product that endures, and a surety of full per cent value for the Roddis price asked. Roddis completely solid, 5-ply construction insures permanently enduring door quality and rich beauty: everlasting door service of highest character. Therefore, before you decide on doors write for and read the interesting, illustrated Roddis Catalog of details and specifications. Sent on request.

RODDIS LUMBER & VENEER CO. MARSHFIELD, WIS.
134 Fourth Street
Distributors In All Principal Cities Established 1890

The Most Economical Door For Residences

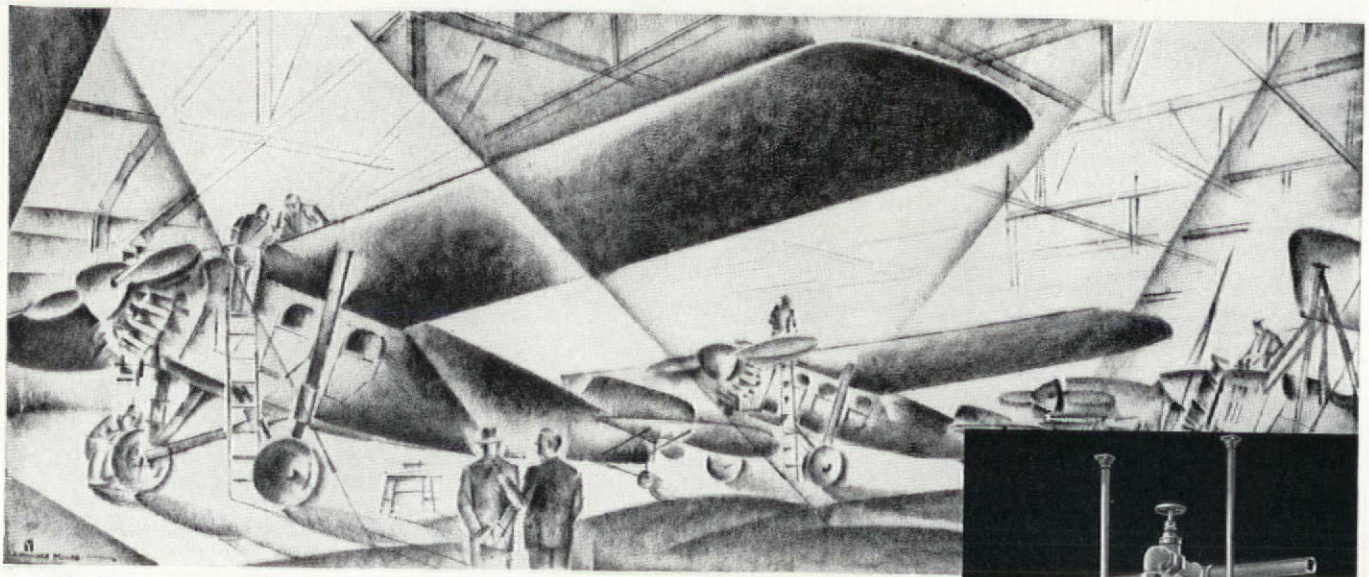
The cost of Roddis Doors for residences is sufficiently low to be most practical for residences. And the greater value given — in construction, beauty and permanently enduring quality add a great economy when Roddis Doors are used. Standard designs are available, or made special to individual requirements. Write now for further details of Roddis doors.



Ph. Lindsley Small, Cleveland, Ohio . . . Architect

WHEN HEAT IS Controlled

. . working conditions are right



HEAT WITH UNIT HEATERS

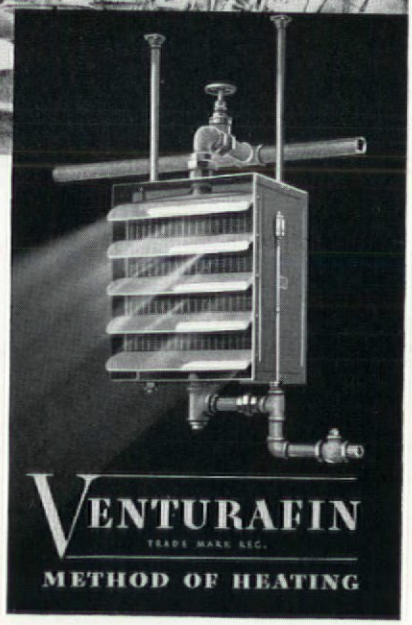
It is easy to maintain an even temperature—not too hot, not too cold—throughout a building . . . to keep workers comfortable and contented, after Venturafin Unit Heaters are installed and heat becomes *controlled*.

Equipped with an individual three-way heat control switch, each Venturafin Unit forces heated air at LOW, MEDIUM or HIGH speed—at exactly the required velocity to correct irregularities of temperature in a building. Individually adjustable streamline air-jet deflectors direct heated air in one or several directions simultaneously. Venturafin Unit Heaters force heated air *where* you want it, *when* you want it and *as much as* you want.

Many are the unusual advantages offered by the Venturafin Method of Heating—cold corners and heat pockets disappear . . . no more wasteful heating of ceiling areas first . . . drafts are eliminated . . . absences of workers because of colds, headaches and similar ailments are reduced, and efficiency increased.

Venturafin Units are ideal for heating factories, shops, stores, garages, and many other types of buildings. They are easy to install and can be used on high, medium or low pressure steam applications. We shall be pleased to furnish you complete data direct from the factory, or upon application at any of our nation-wide sales and service offices. (1042)

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BRANCH OFFICES IN ALL PRINCIPAL CITIES



Venturafin Units can be mounted on wall, column or ceiling with ordinary ¾-inch hanger pipes. Heat control with Venturafin Units becomes automatic by the application of a Mercoid Thermostat.



Venturafin Units for industrials are equipped with a three-speed heat control switch.

American Blower
"Sirocco" VENTILATING, HEATING, AIR CONDITIONING, DRYING, MECHANICAL DRAFT
MANUFACTURERS OF ALL TYPES OF AIR HANDLING EQUIPMENT SINCE 1881



740 PARK AVE
NEW YORK

THIS apartment building is being erected for Mr. James T. Lee of New York. It embodies to the last painstaking detail its owner's far-reaching ideas in modern luxury and beauty. That Dahlstrom Elevator Entrances were chosen for this superlatively fine building is nothing less than a high tribute. Other current Dahlstrom installations include the 60-story City Bank and Farmer's Trust Co., the 58-story 500 Fifth Avenue, the 40-story George A. Fuller Building, the 36-story Daily News Building, and the world's largest office structure, the Empire State Building on the site of the historic Waldorf-Astoria Hotel.

ARCHITECTS: ROSARIO CANDELA AND ARTHUR LOOMIS HARMON
BUILDERS: HEGEMAN-HARRIS, INCORPORATED

Elevator Entrances by

DAHLSTROM

DAHLSTROM METALLIC DOOR COMPANY, (*Established 1904*) JAMESTOWN, N. Y.
NEW YORK CHICAGO · LOS ANGELES · DETROIT · DALLAS



Good general illumination and ample show case illumination prove excellent aids to merchandising.

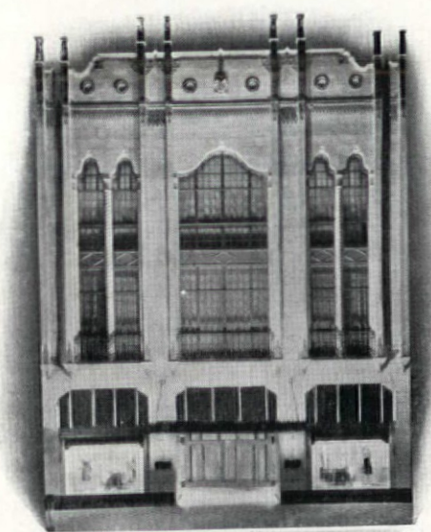
STYLE TRENDS IN STORE LIGHTING

demand adaptability in wiring

By H. A. LORENTZ
of Lorentz and Lorentz, Architects
Canton, Ohio

Early studies for the Lefkovits store in Canton, Ohio, indicated the need for an electrical layout capable of taking care of changing requirements for light. For the modern store, responsive as it must be to style developments, watches for improvements in lighting and in the use of electricity as closely as it watches markets and style trends in merchandise.

It was natural to turn to the wiring and lighting bureau of the electric service company serving the territory for information that would help provide continuing adequacy and protect the building against early electrical obsolescence. Here was found a broad background of experience and a valuable store of information that made it possible to project the course of future electrical requirements.



Floodlighting and intensive display window lighting provide an attractive exterior.

The lighting installation decided upon with the help of this lighting bureau provides seventy-five window reflectors with 200-watt lamps on one-foot centers and floodlighting from five 1000-watt projectors. In the interior of the store general lighting of 18 foot-candles is provided and in addition there is ample show case lighting.

Provision is made in the wiring for the installation of extra circuits whenever the style trend in lighting makes them desirable.

In this day of rapid electrical developments provision for meeting future electrical requirements is an important consideration in the design of any building.

For information about trends in lighting standards, and about adequate wiring standards, call on the lighting bureau of your local electric service company, or write direct.

NATIONAL ELECTRIC LIGHT ASSOCIATION, 420 LEXINGTON AVENUE, NEW YORK, N. Y.



HOLD YOUR HAND ON THE SMOKE STACK

. . . . . *High stack temperature means wasted heat. . . .*

If a smoke stack is running a temperature, the boiler is not efficient. Heat is being lost up the chimney. In coal-fired boilers . . . or with oil burners installed in ordinary boilers built for coal firing . . . stack temperatures are often high. That means wasted heat and high heating costs.

The ordinary boiler . . . with its short wide flues . . . is not built to absorb the intense heat of burning oil. It has remained for Gar Wood and his engineers to stop this waste.

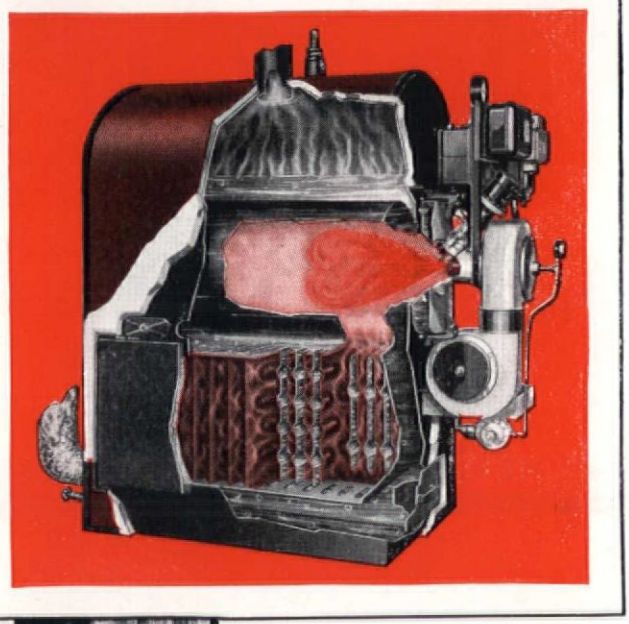
They did it . . . successfully . . . by building a boiler like an automobile radiator. Long narrow flue passages *vastly increased the heating surfaces.* Water tubes were baffled to cause a *scrubbing action* of the gases against their walls. The result is an almost complete transfer of heat to the boiler water. Stack temperatures are just high enough to prevent condensation.

The Gar-Wood burner is engineered to fit the boiler's combustion chamber. Almost perfect combustion is effected. From the moment the Gar-Wood burner starts, its flame burns in suspension, without the use of refractory linings.

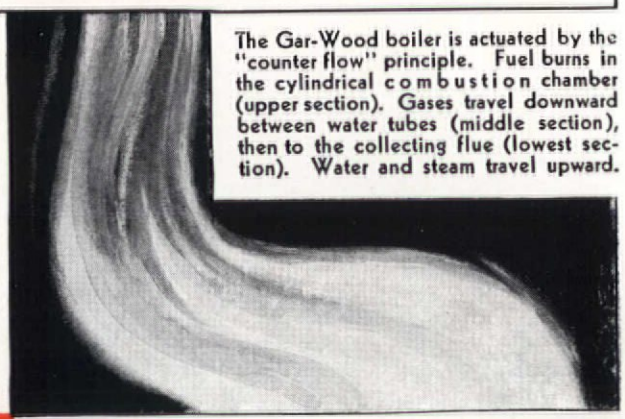
In the ordinary oil burner, the fire pot of the boiler must have a refractory lining. This is a clay tile which will heat quickly and vaporize the oil particles not atomized at the burner nozzle, and thus prepare them for combustion. Until this refractory lining is hot . . . which takes from three to ten minutes . . . the burner cannot operate at maximum efficiency.

The Gar-Wood . . . with boiler and burner engineered into one complete balanced heating unit provides automatic heat from either oil or gas at a cost that is less than coal. Get the facts and figures. *Mail the coupon now.*

Responsible organizations now distributing through the heating trade should investigate the Gar-Wood franchise. Write the factory for details.



The Gar-Wood boiler is actuated by the "counter flow" principle. Fuel burns in the cylindrical combustion chamber (upper section). Gases travel downward between water tubes (middle section), then to the collecting flue (lowest section). Water and steam travel upward.



GAR WOOD ENGINEERING CO.
4196 Bellevue Ave. Detroit, Mich.

Gar-Wood



GAR WOOD ENGINEERING CO.
4196 Bellevue Ave., Detroit, Mich.

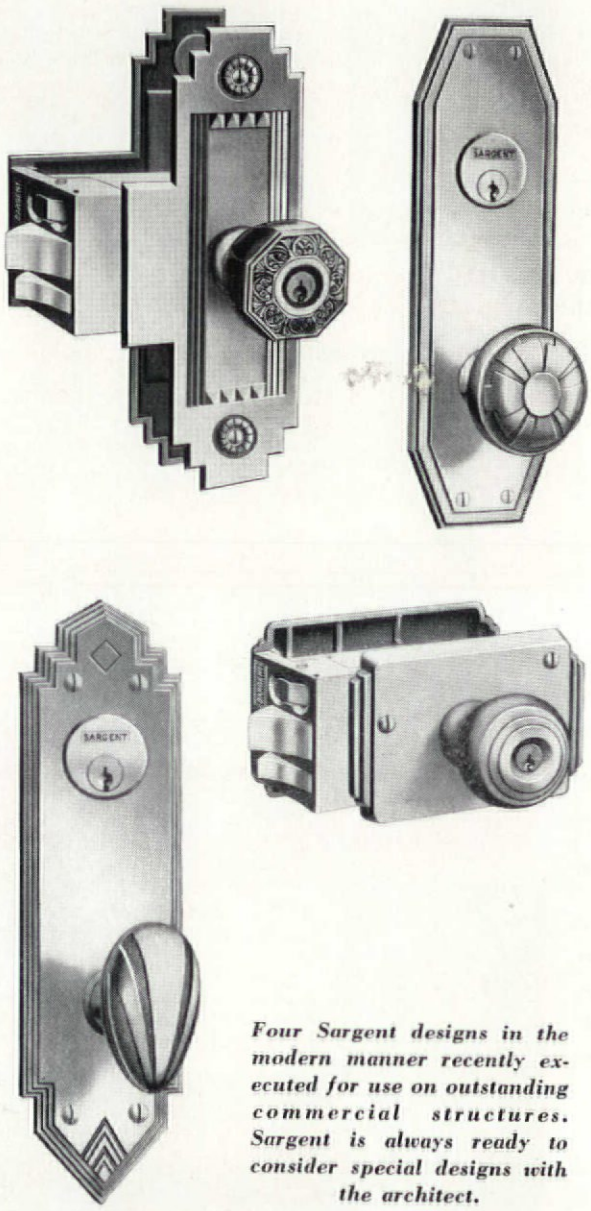
Gentlemen: Send me...without cost or obligation...a copy of "A New Principle of Generating Heat at Low Cost."

Firm Name

Address

City State R-10-30

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Four Sargent designs in the modern manner recently executed for use on outstanding commercial structures. Sargent is always ready to consider special designs with the architect.

DESIGNS THAT HARMONIZE

A NEW idea of proportions, planes in symmetry, balanced angles, lines that extend unbroken—such qualities have come to characterize most of the commercial architecture of today. In step with every trend, Sargent has taken each new design element as it appears, adapted it to the strictest mechanical requirements, and produced builders' hardware equipment entirely modern—modern in beauty and modern in the perfection of its metal craftsmanship.

Sargent will execute designs specially made by the architect for an individual building, or Sargent artists and modelers will suggest special pieces designed from the architect's plans and drawings or direct from a building's decorative motif. Sargent's modern hardware is made in virtually every metal and in every kind of finish. We shall be pleased to consult with you regarding hardware for any type of building or any style of architecture. Send for our new booklet, "Modern American Designs in Sargent Hardware." Sargent & Company, New Haven, Connecticut.

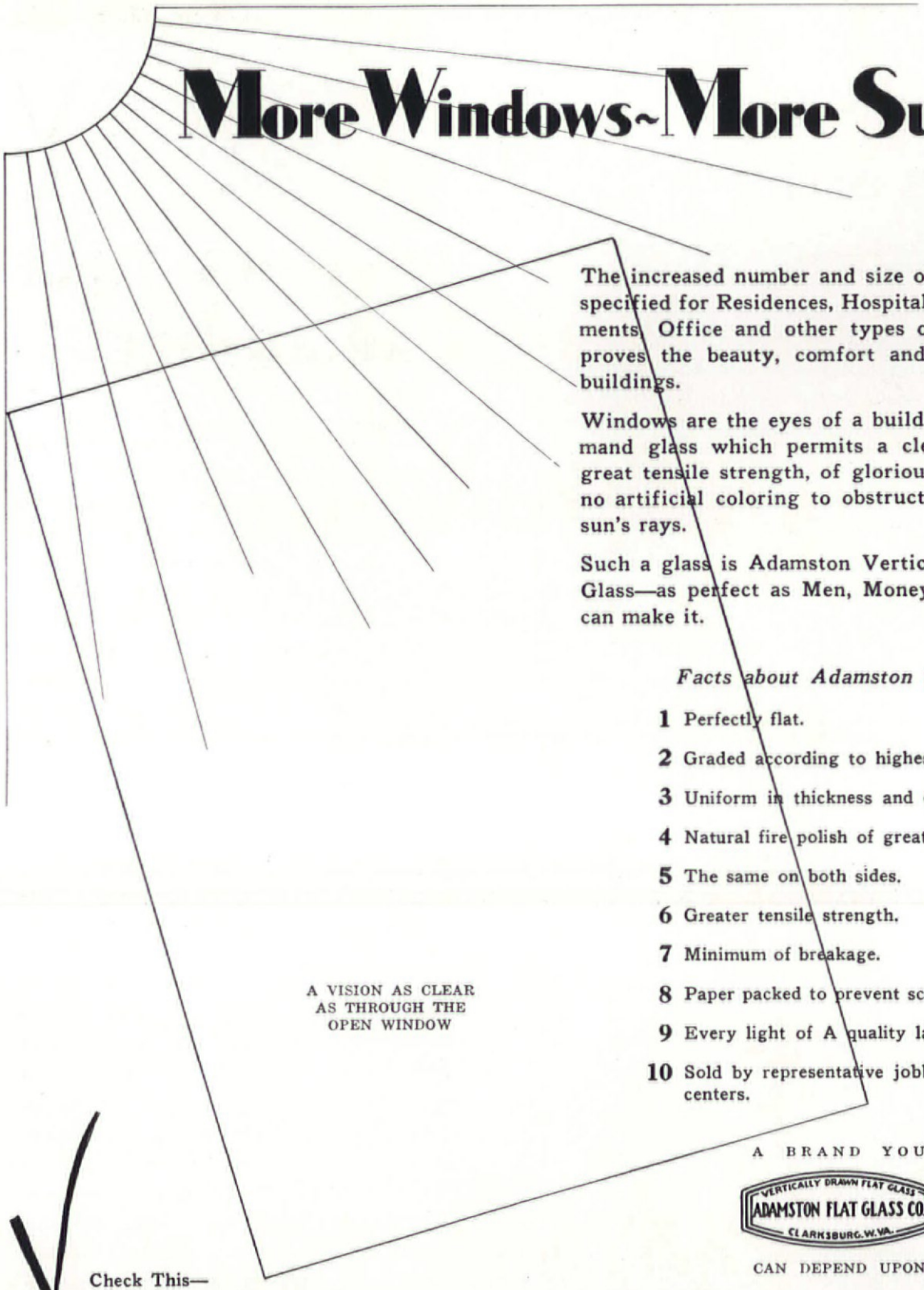
In New York City—Builders' Hardware Division and Showroom at 295 Madison Avenue, Warehouse at 94 Centre Street.

In Chicago—150 North Wacker Drive (at Randolph).

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LOCKS AND HARDWARE

More Windows~More Sunlight



A VISION AS CLEAR AS THROUGH THE OPEN WINDOW

The increased number and size of windows being specified for Residences, Hospitals, Hotels, Apartments, Office and other types of buildings, improves the beauty, comfort and value of these buildings.

Windows are the eyes of a building and they demand glass which permits a clear vision, is of great tensile strength, of glorious lustre, and has no artificial coloring to obstruct the penetrating sun's rays.

Such a glass is Adamston Vertically Drawn Flat Glass—as perfect as Men, Money and Machinery can make it.

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1. Perfectly flat.
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4. Natural fire polish of great lustre.
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10. Sold by representative jobbers in all principal centers.

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ADAMSTON FLAT GLASS CO.
CLARKSBURG, W. VA.

CAN DEPEND UPON

Check This—
92% of Adamston Sales are Repeat orders.

ADAMSTON FLAT GLASS COMPANY

CLARKSBURG, W. VA.

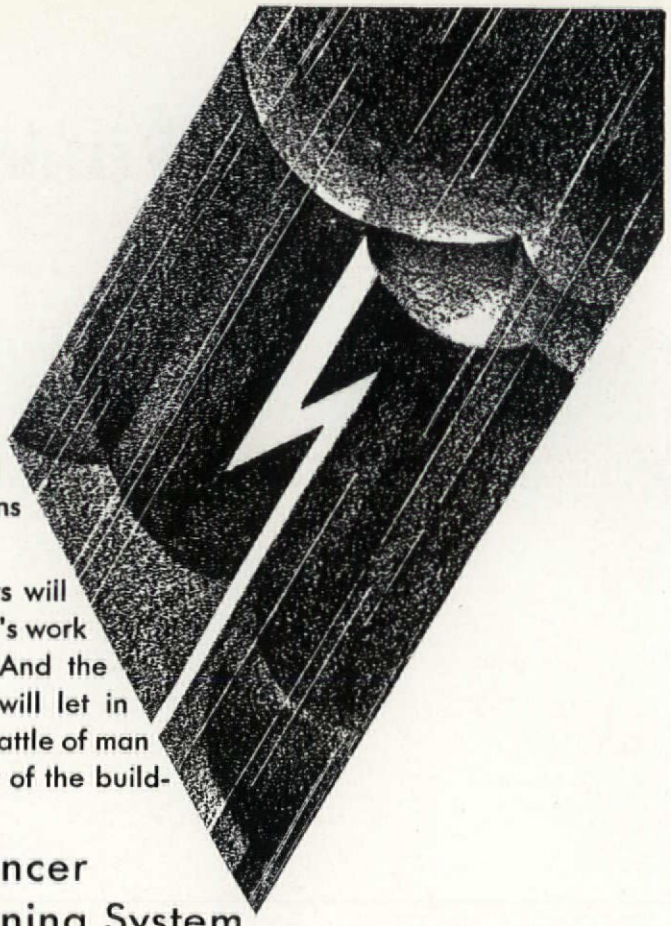
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CHICAGO, ILL.

VERTICALLY DRAWN FROM THE MOLTEN METAL TO THE FINISHED STATE

Why not protect the inside of your building, too!



A new structure rises — is completed —and occupied. You have protected it against all the elements of the heavens —but how about man?

The very first army of workers will track in *dirt*. The very first day's work will leave a trail of debris. And the first window that is opened will let in destructive dust. And the battle of man against the very efficiency of the building has just begun.

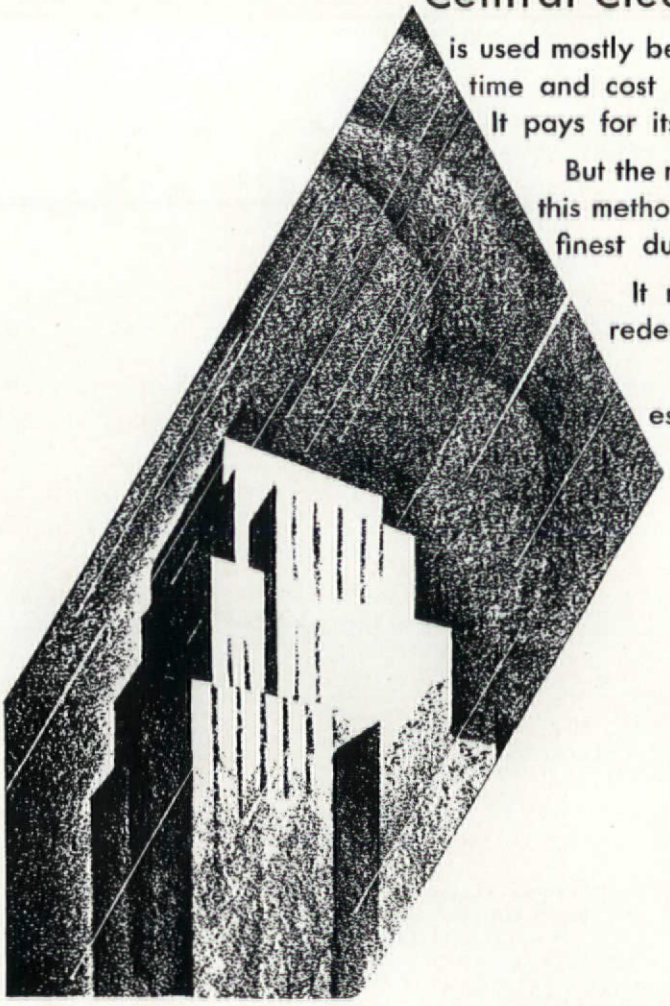
The Spencer Central Cleaning System

is used mostly because it reduces the time and cost of cleaning a building. It pays for itself in a very few years.

But the really important point is that this method removes dirt and even the finest dust before it can accumulate.

It reduces both the cleaning and redecorating costs.

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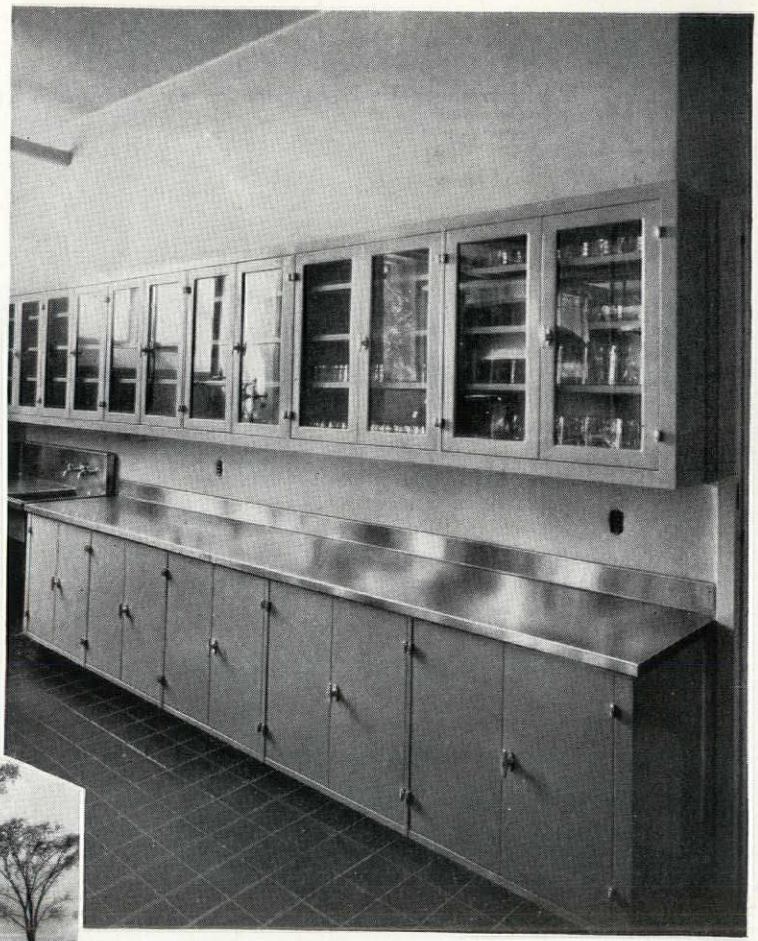
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Built-in cabinets installed by THE GENERAL FIREPROOFING COMPANY *in the Youngstown City Hospital, Youngstown, Ohio. Several hundred of these units were equipped with Monel Metal tops, while all the dressing cabinets in private rooms have baseplates and shelves of Monel Metal. At left: Youngstown City Hospital, Architects: Albert Kahn, Detroit; Morris Scheible, Youngstown, associate.*

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HOSPITAL employees welcome the cheerful, labor-saving aid of silvery Monel Metal. Doctors and nurses like its look of crisp cleanliness—its always "at your service" appearance which is the outward sign of inherent properties exclusive to Monel Metal.

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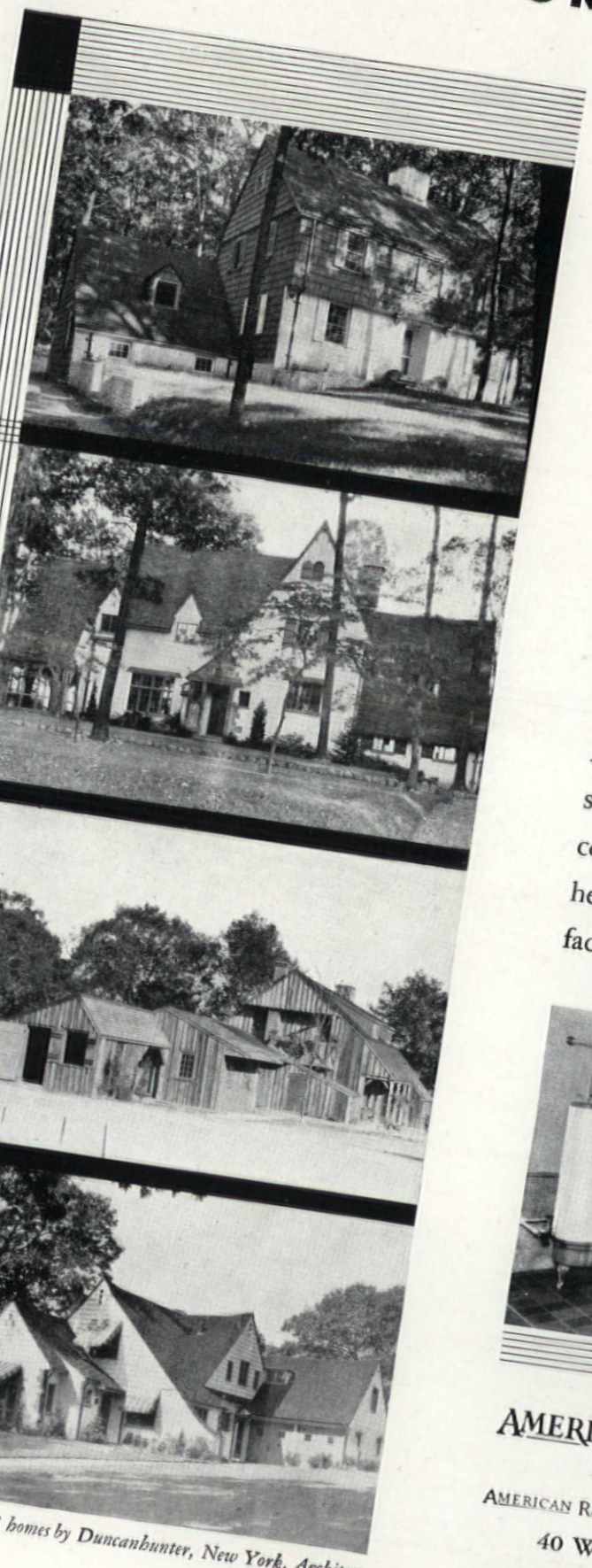
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UNUSUAL HOMES THAT ARE AS COMFORTABLE AS THEY ARE ATTRACTIVE

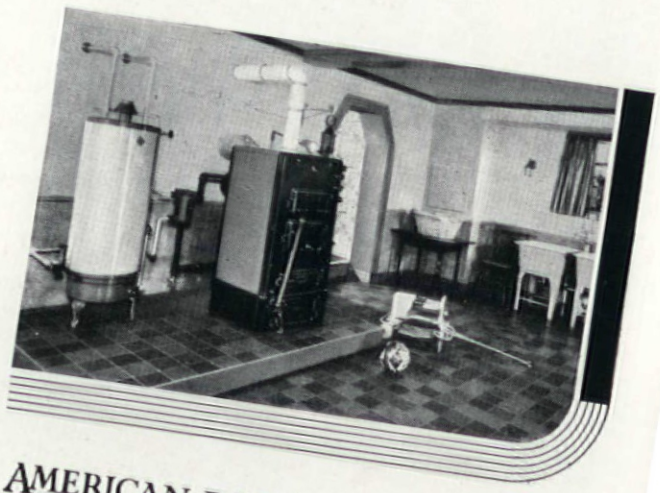


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▼ Here are four homes that are unusual in design, unusual in construction, both outside and inside. But without comfortable, even warmth, they would be *dreary.*

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Architects . . . Law, Law & Potter, Madison, Wisconsin.





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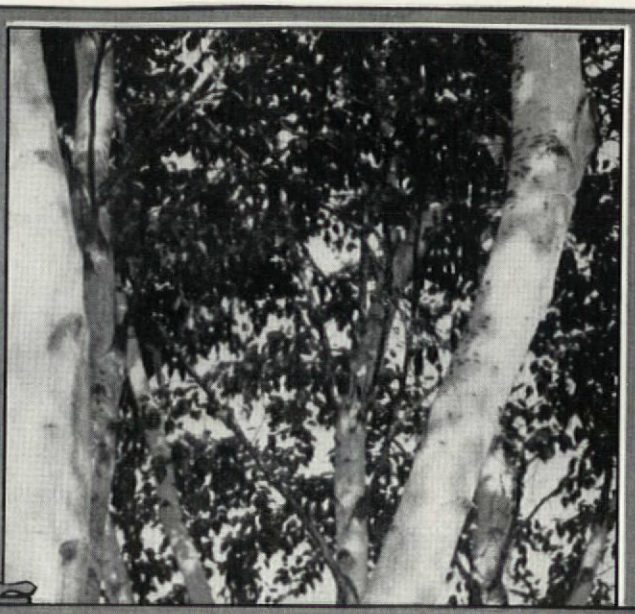
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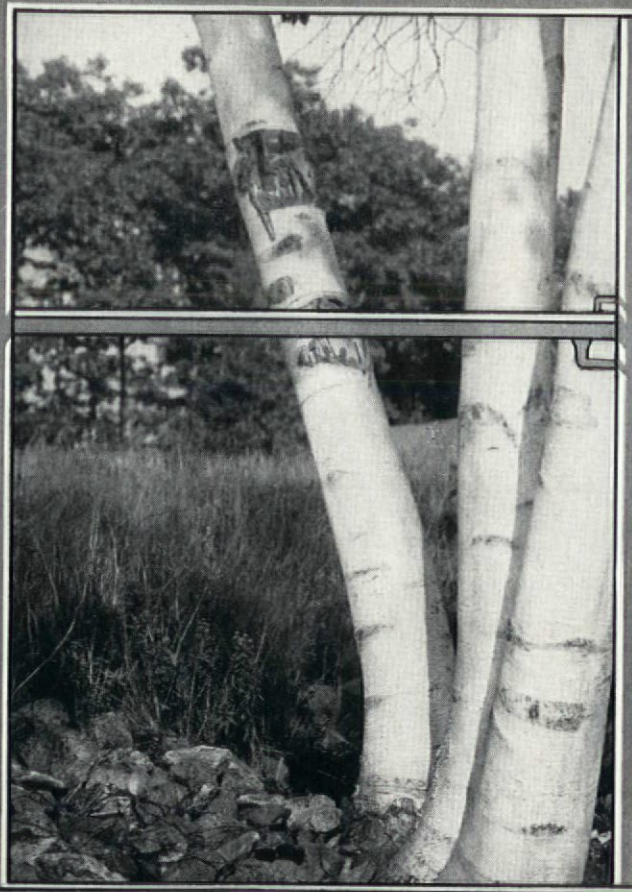
The architects selected Halsey Taylor Drinking Fountains for this Springfield (Illinois) building. The factors that govern their choice . . . beauty of design, assurance of sanitation, freedom from servicing . . . are bound to appeal to the most discriminating architect, builder or owner! Play safe with "the specification for sanitation". . . . The Halsey W. Taylor Company, Warren, Ohio.

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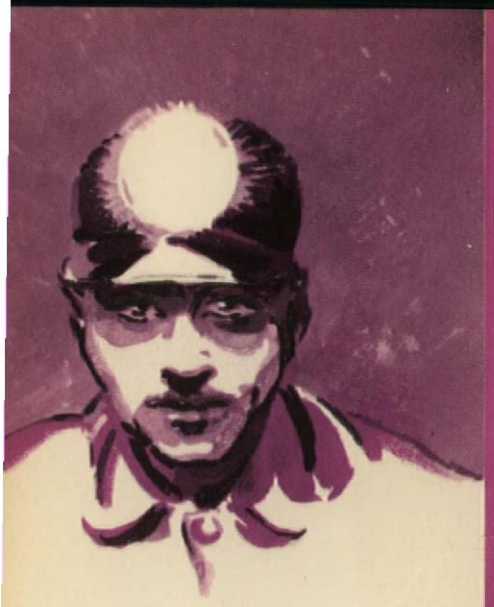
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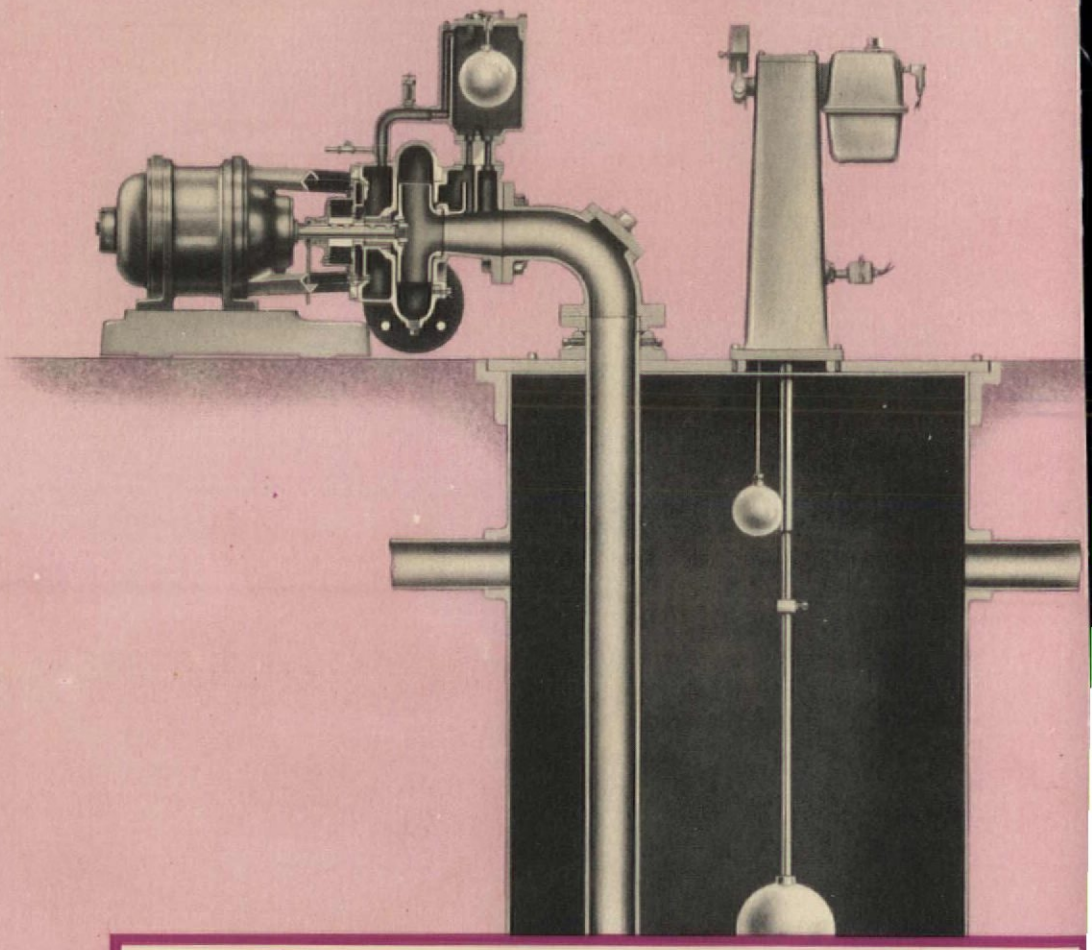



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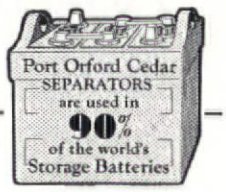
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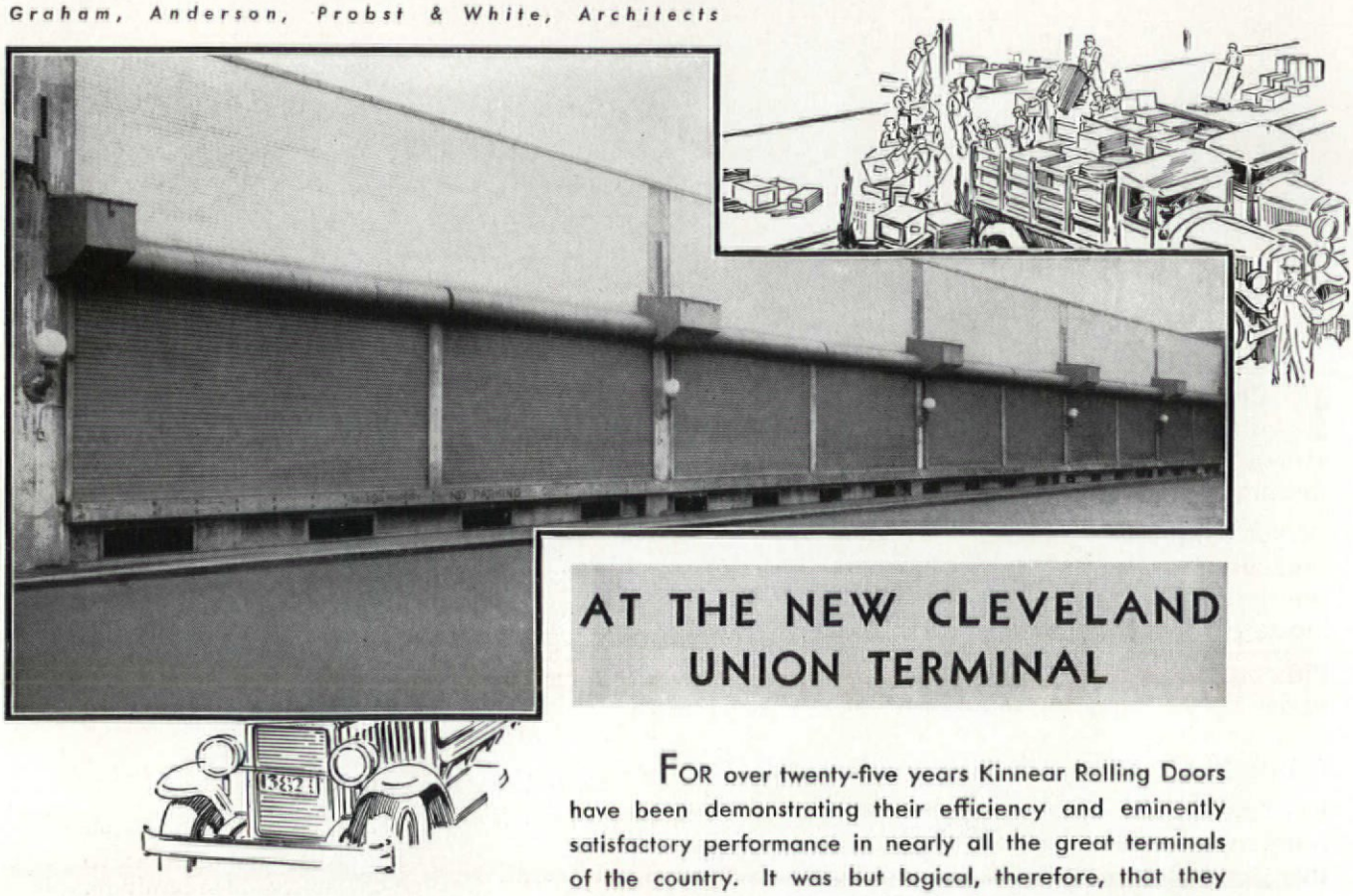
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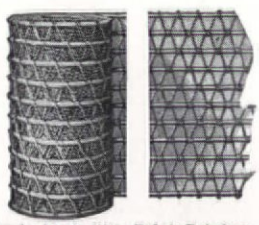
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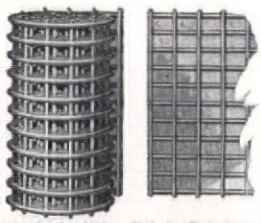
The Carew Tower, Cincinnati, Ohio—Walter Ahlschlager, Architect, Chicago—Delano & Aldrich, Associate Architects, New York—Starrett Building Co., Contractors, Chicago—Lieberman & Hein, Consulting Engineers, Chicago



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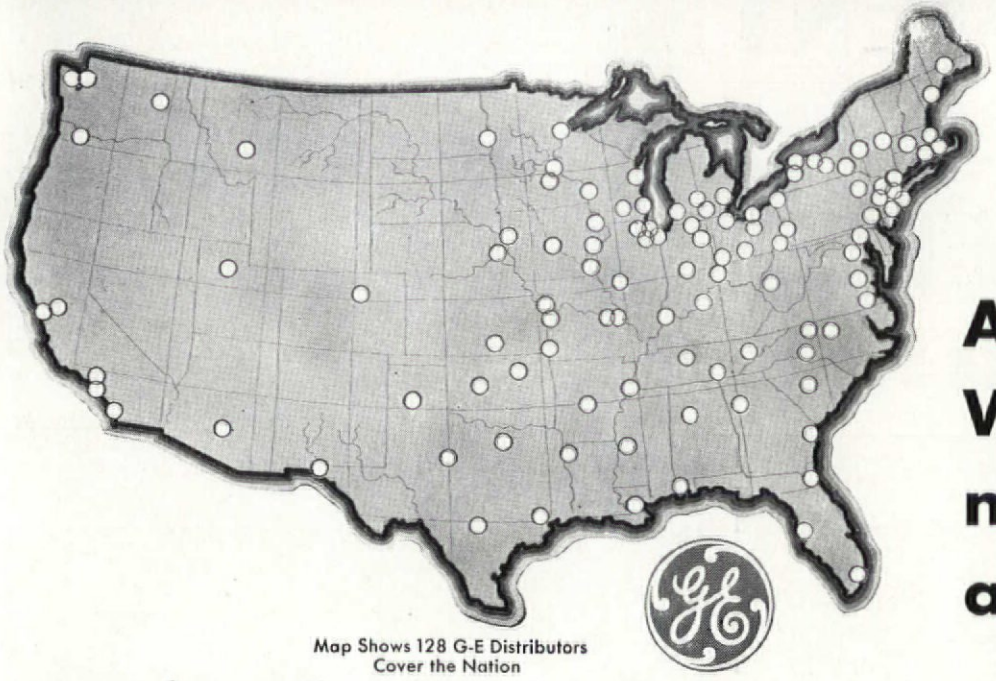
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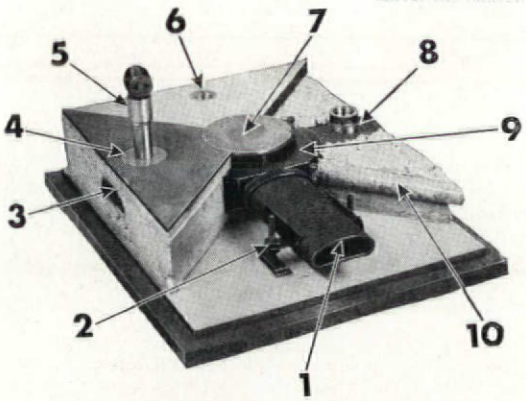
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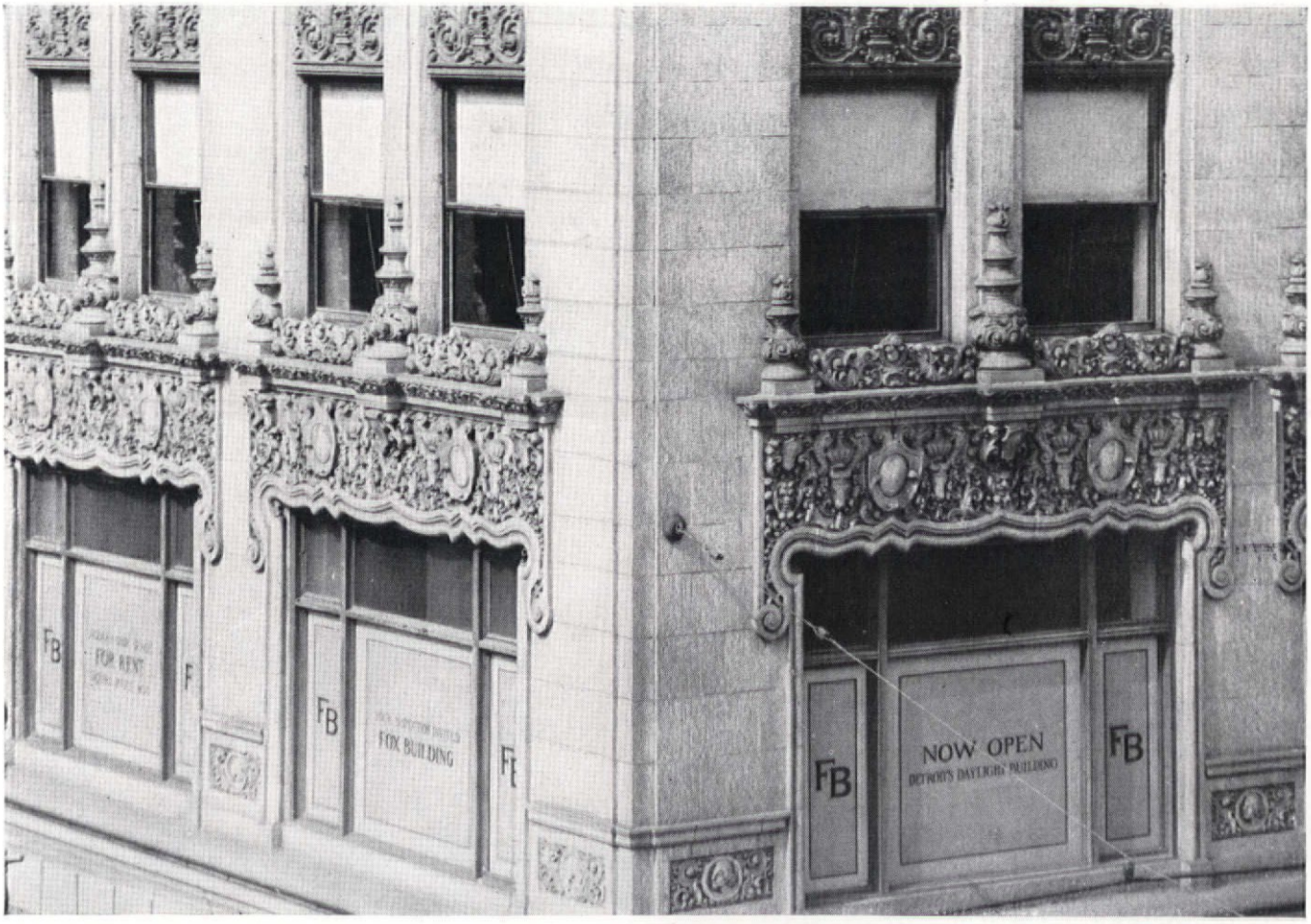
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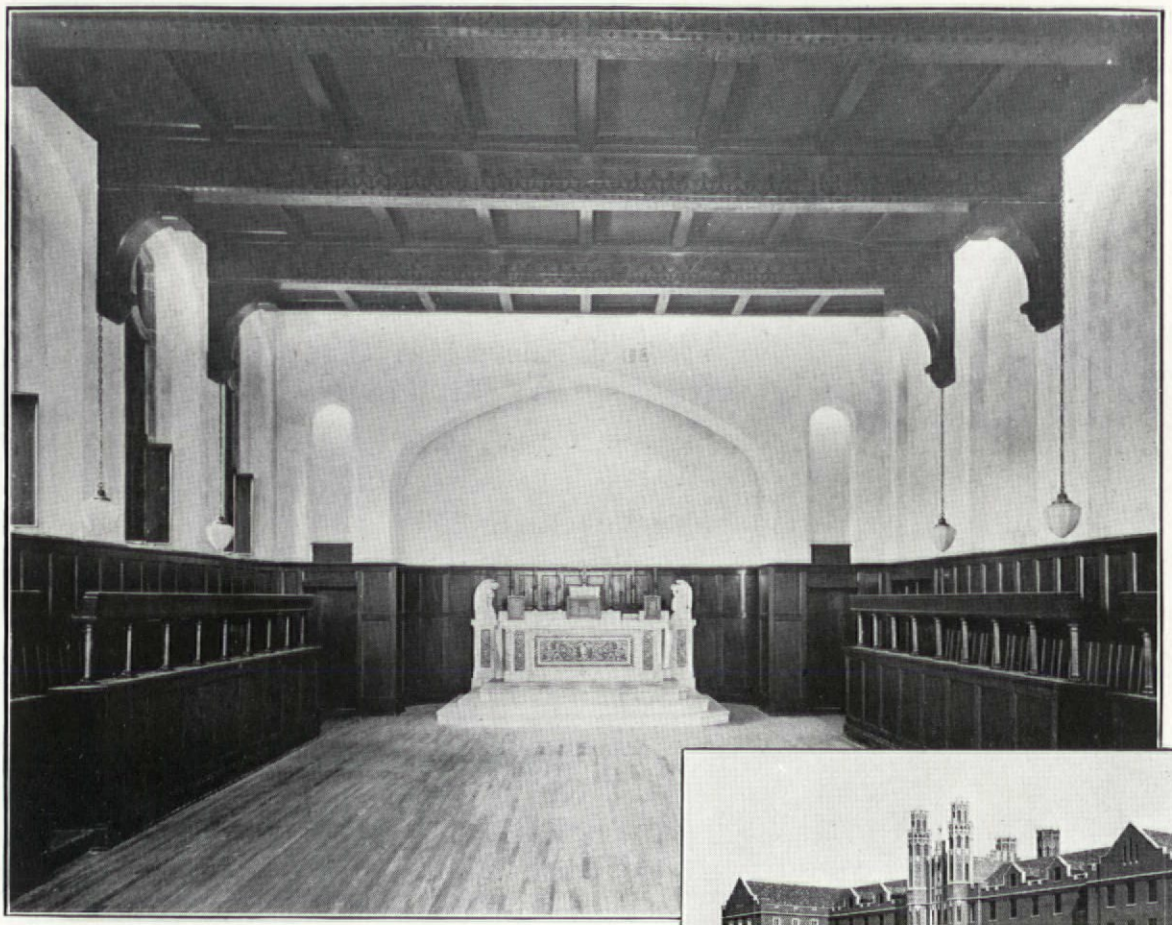
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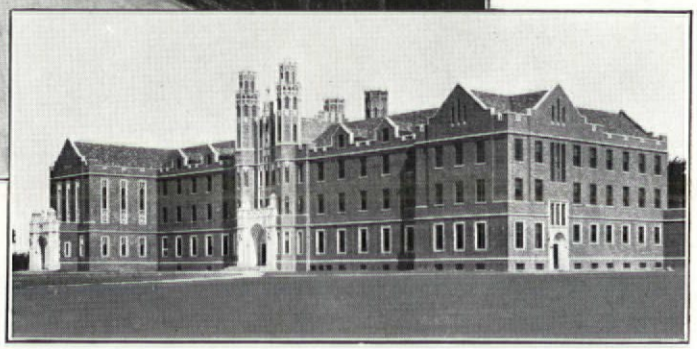
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See page B-1981 SWEETS

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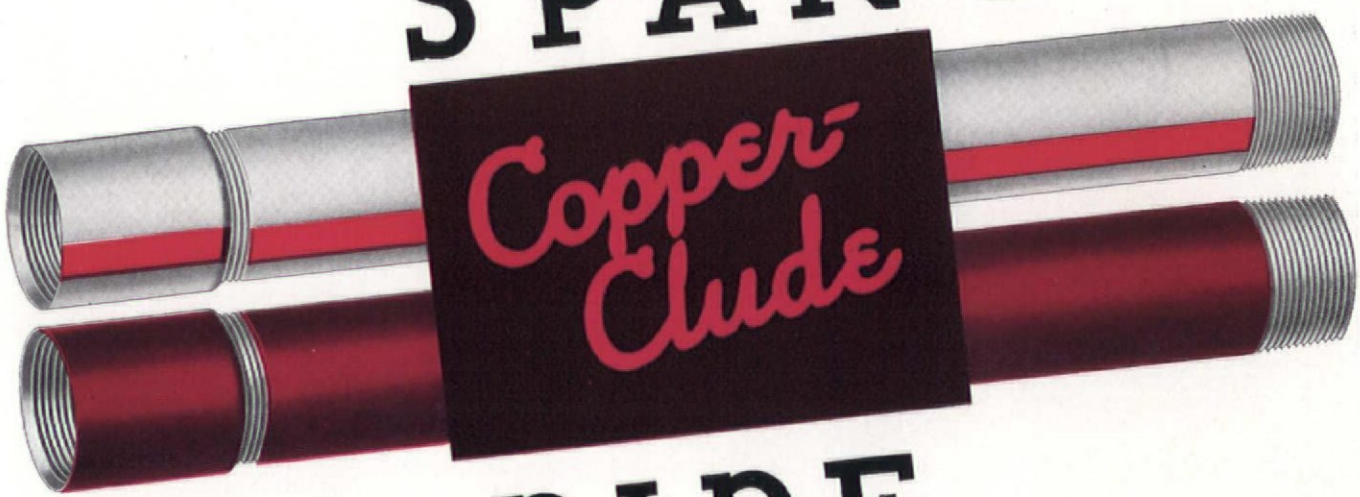
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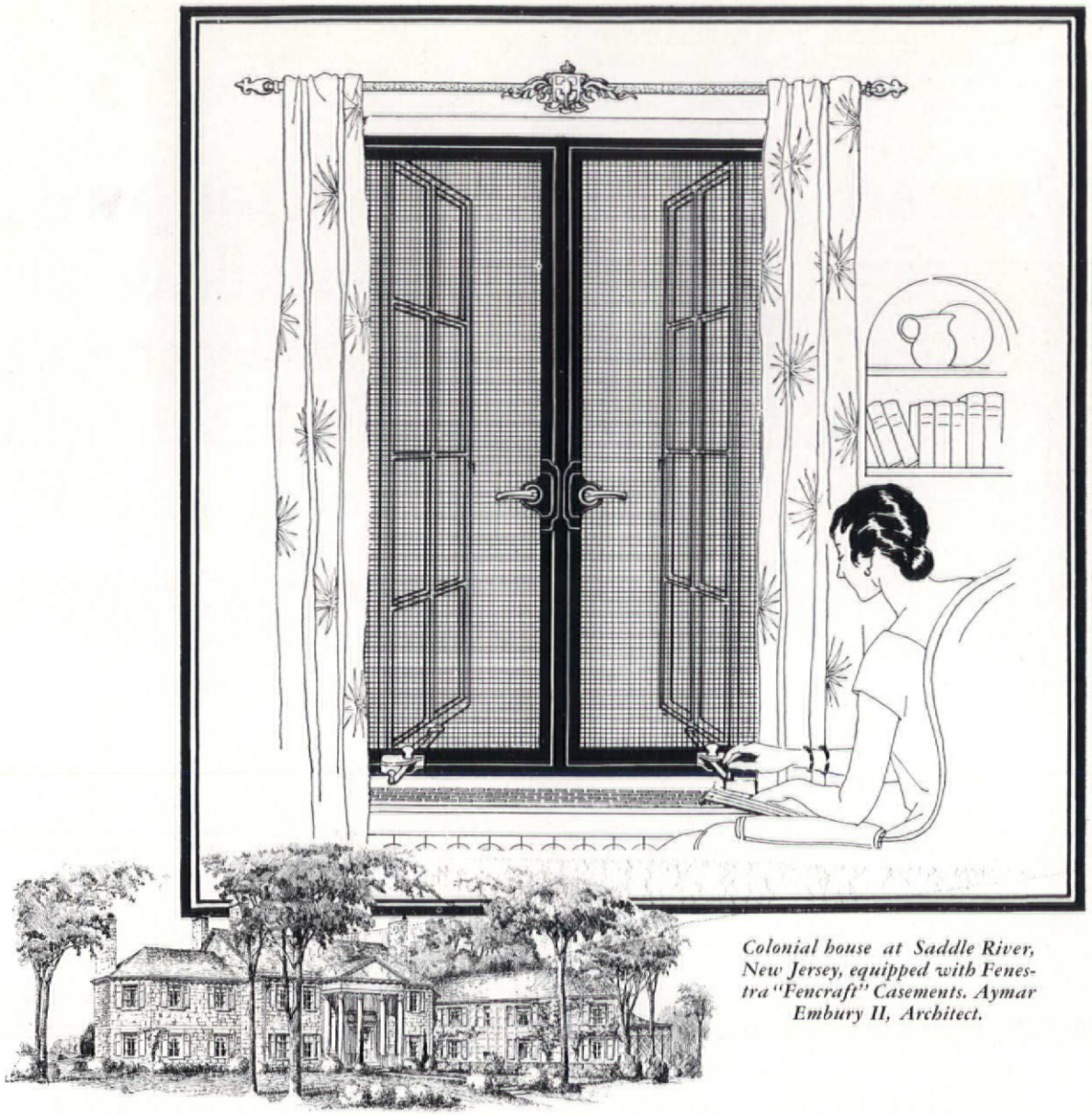
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Architect AYMAR EMBURY II

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Fenestra
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This Snead Armor Grid Gangway

is in excellent condition after two years of extremely severe service » »

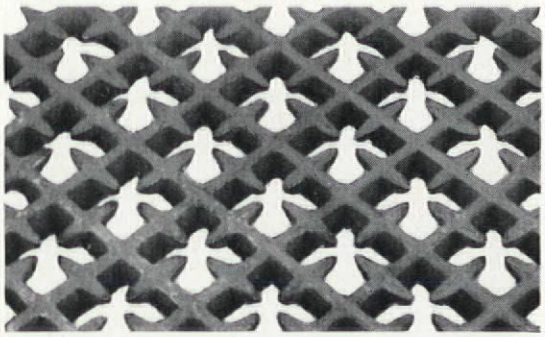


Above is pictured a section of the foundry gangway at a prominent Rhode Island plant. The gangway consists of approximately 5,500 sq. ft. of Snead No. 30 Heavy Duty Armor Grids and has been installed for about two years. A careful inspection recently made revealed the surface to be in really excellent condition despite the terribly heavy traffic to which it has been subjected. We make the prediction that this gangway will be as satisfying 20 years after installation as it is right now.

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SNEAD & COMPANY – Founded 1849

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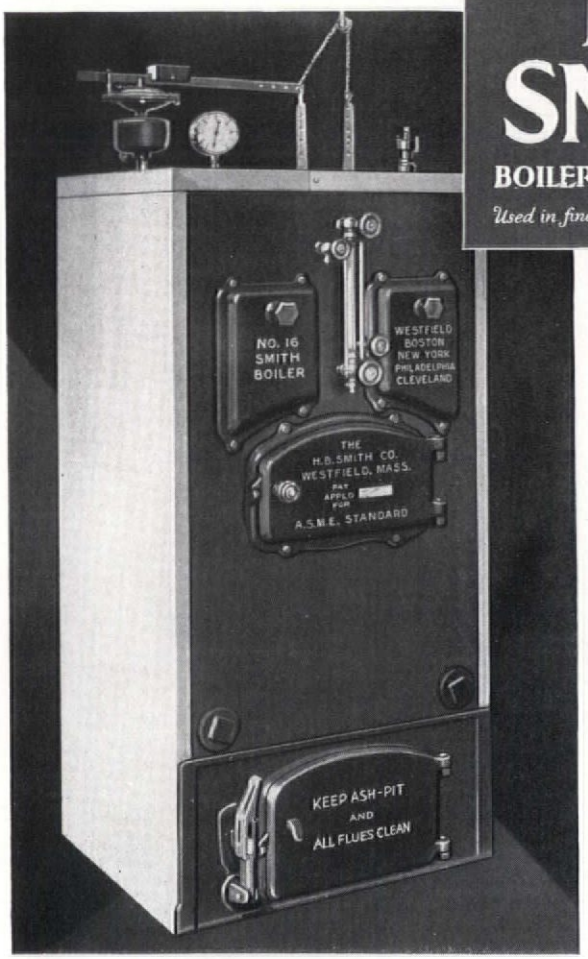
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GRANITE

CONTRIBUTORS

John Burnet: *English architect and designer of the Royal Institute of Fine Arts, the British Museum extensions.*

Corbett, Harrison and MacMurray: *architects of the Roerich Museum and Master Apartment Building, published in the December 1929 issue.*

Livesay and Wiedemann: *architects and engineers practicing in Beaumont, Texas.*

Cornelius S. Loder: *a hospital consultant with offices in New York.*

William Muschenheim: *educated in Boston and has worked with Korn in Berlin, Peter Behrens in Vienna and Joseph Urban in New York.*

Swasey and Hayne: *Los Angeles architects specializing in banks.*

Walker and Gillette: *New York architects specializing in banks, office buildings and country houses.*

Weary and Alford: *designers of banks and office buildings with offices in Chicago.*

Henry Wright: *city planner and a frequent contributor to* The Architectural Record.

CALENDAR OF EVENTS
GENERAL ANNOUNCEMENTS

October	The Department of Architecture of the University of New York will begin a series of lectures on "Promoting and Financing Building Projects."
October	International Hygienic Exhibition at Dresden, Germany. Buildings include a model hospital and a model housing project.
October-Nov. 15	"Man and Machines," an exhibit representing western industrial civilization, at Museums of the Peaceful Arts, 220 East 42nd Street, New York City.
Oct. 6	Exposition and demonstration of road construction equipment and materials, under auspices of American Road Builders' Association, Washington Auditorium, 19th Street and New York Avenue Northwest and demonstration field, Rock Creek and Potomac Parkway, Washington, D. C.
Oct. 7-10	Annual convention of the Illuminating Engineering Society. Hotel John Marshall, Richmond, Va.
Oct. 8-12	Sixth National Conference of Church Architecture, Cleveland, Ohio.
Oct. 30	Competition for designing bathrooms, sponsored by Standard Sanitary Manufacturing Co. Professional advisor, Howard K. Jones, firm of Alden, Harlow and Jones, 2103 Farmers Bank Bldg., Pittsburg.
Nov. 18-29	Art Exhibition, Royal Institute of British Architects, London (9, Conduit Street).
Dec. 1	Competition for "esthetic improvement" in design of water tanks, sponsored by Chicago Bridge and Iron Works. Albert M. Saxe, 430 N. Michigan Avenue, Chicago, architectural advisor.
Dec. 1-6	Ninth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York City.
April 18-25	Fourth Biennial Architectural and Allied Arts Exposition, Grand Central Palace, New York.

IN THIS ISSUE

HOW THE ARCHITECT MAY CULTIVATE BUSINESS

Meritorious service is the essential means of increasing practice. Knowledge of community needs and economic requirements and an established reputation based on satisfactory completed buildings bring clients to the architect. At the same time there are methods by which the architect can bring himself to the notice of prospective clients. These are outlined in this issue and illustrated by actual cases.

PORTFOLIO OF BANKS

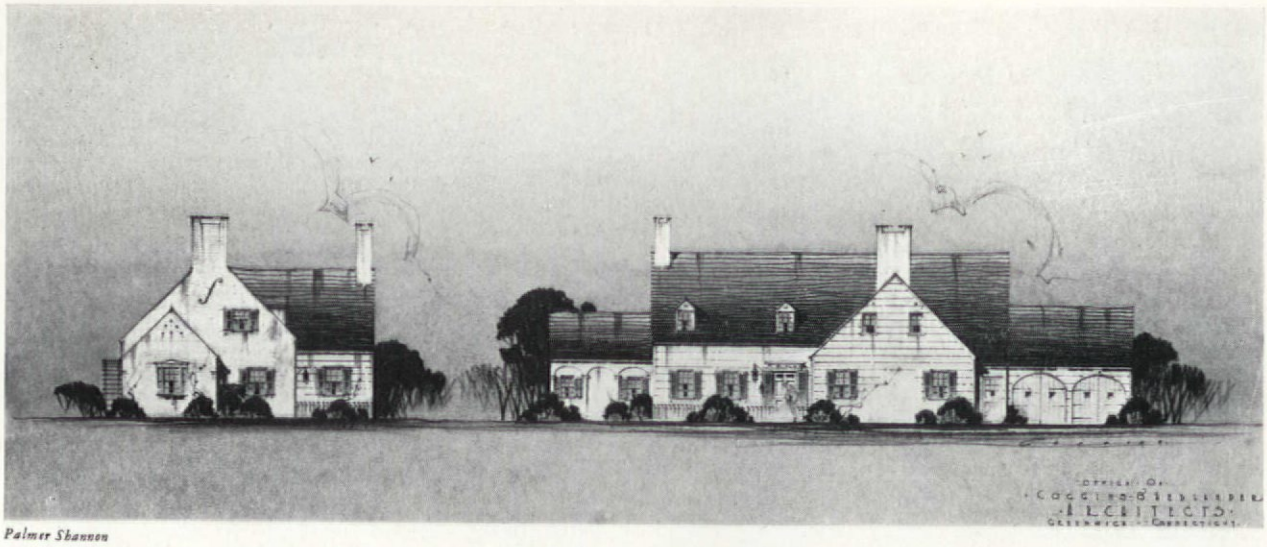
Banks have been selected for their suitability to the chain bank system. Branch banks illustrated show similarities in exterior treatment but with differences in plan.

TECHNICAL NEWS AND RESEARCH: GLASS

This study illustates the varied characteristics and physical properties of glass in its application to buildings and how glass may be used to best advantage on various types of construction. New glasses on the market, including ultra-violet ray glass, are discussed. Standards for judging relative merits of various glasses are set up.

BUILDING TRENDS AND OUTLOOK—NON-RESIDENTIAL BUILDING

This article by L. Seth Schnitman, statistician, continues the survey of building prospects for residential construction, presented in the September issue. In November Mr. Schnitman will discuss economic conditions within the engineering branch of the construction industry in relation to residential and non-residential building. Charts of material price trends are included.



Palmer Shannon

GREENWICH, CONN. • COGGINS AND HEDLINGER, ARCHITECTS

November issue—

THE COUNTRY HOUSE

New trends in country house work are surveyed in an article by Howard T. Fisher, who has been devoting his time to an investigation of requirements for this type of building. His study takes up such problems as heating and air conditioning, and the advantages and disadvantages of various heating systems and fuels; roof terraces and gardens, and methods of waterproofing, surfacing, and insulation; window sizes, and the proper orientation of rooms for sunlight and summer breezes. A check list of requirements is included.

This issue will consist largely of photographs of country houses together with working drawings, plans and brief descriptions. Selections have been made of houses which illustrate the most recent developments in all styles of domestic architecture as well as in all sections of the country. Many new features in design, planning and construction are shown.



RYE, N. Y.
JULIUS GREGORY, ARCHITECT



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This between wall destruction of ordinary non-resilient building paper leaves wide holes for the penetration of moisture, dirt, wind and vermin and proves that such papers do not protect regardless of their strength.

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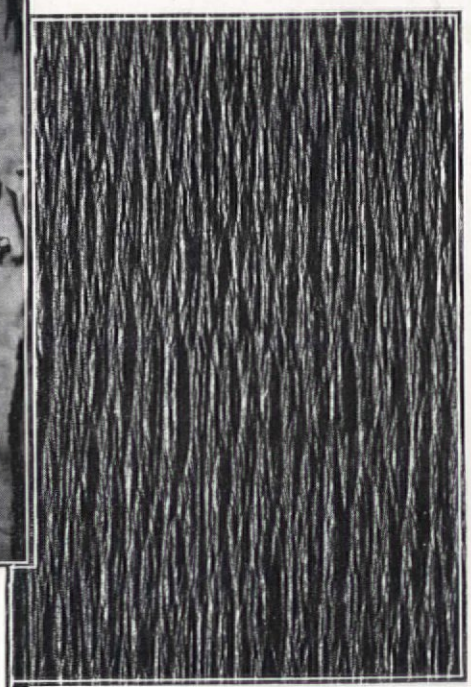
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At left: Proving that non-stretchable building papers scuff, tear, split and break at the nails under building strains and shrinkage. The house being torn down was quite modern. The building paper a well-known brand.



Illustrating Brownskin the Patented Resilient, Stretchable Building Paper that conforms to All building distortions without breaking.

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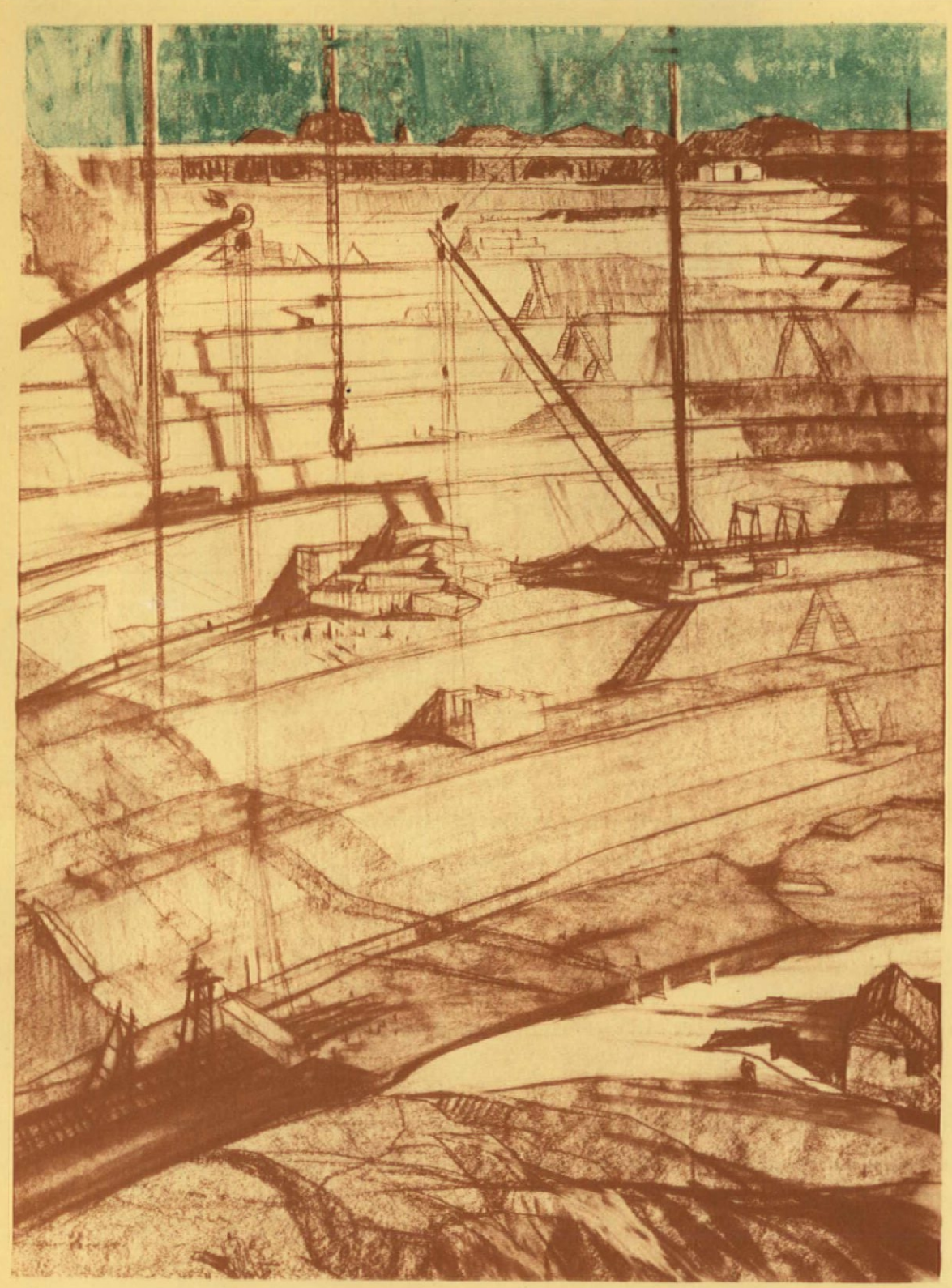
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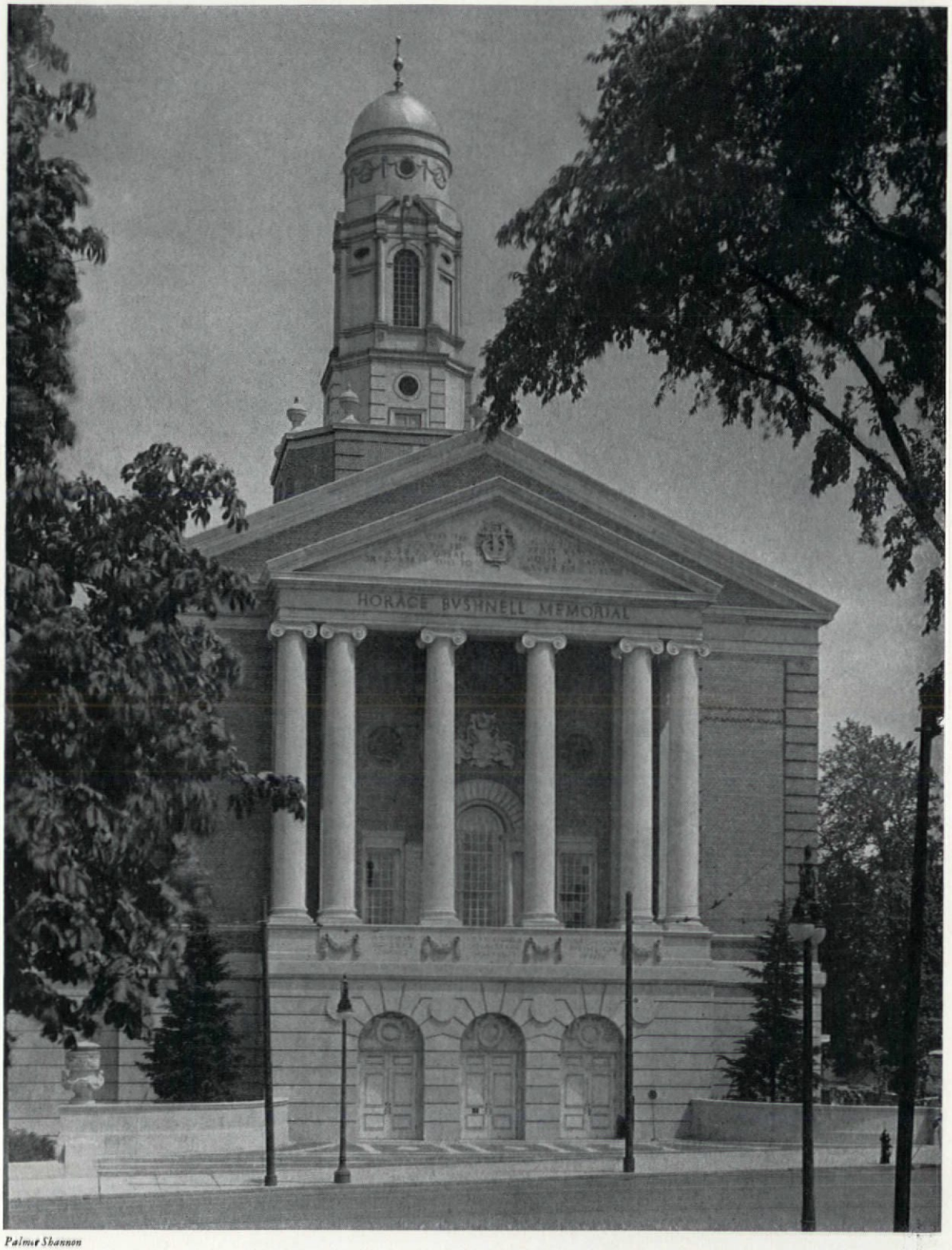
A QUARRY VIEW

This is number one of a series of twelve Drawings made at the Fletcher Quarries by Ernest Born.

GRANITE

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WEST CHELMSFORD MASS.



Palmer Shannon

BUSHNELL MEMORIAL BUILDING
HARTFORD, CONN.
CORBETT, HARRISON AND MACMURRAY, ARCHITECTS

THE ARCHITECTURAL RECORD

AN ILLUSTRATED MONTHLY MAGAZINE OF ARCHITECTURE & THE ALLIED ARTS & CRAFTS

VOLUME 68 OCTOBER, 1930 NUMBER 4

THE BUSHNELL MEMORIAL BUILDING

HARTFORD, CONN.

CORBETT, HARRISON AND MacMURRAY, Architects

The building is a memorial to Horace Bushnell, a leader in civic affairs and one of the main figures in the life of Hartford during the middle of the nineteenth century.

Fronting the building is a large park which Bushnell, by his political and personal efforts, obtained for Hartford, and which has been named for him. In it stands the State Capitol.

•

PURPOSE

The auditorium, with a seating capacity of 3500, was planned to give a place of assemblage large enough to accommodate the occasional visits of the New York Metropolitan Opera Company, the Philharmonic or the Philadelphia Orchestra.

•

COST

The building cost $.65 a cubic foot.

•

EXTERIOR

The local architecture of New England was selected, which it was thought by the architects would conform with other buildings in Hartford and also with the clients' desire to have the style symbolize the life of their father and grandfather.

Brick and buff Indiana limestone are used for the exterior. The roof is copper.

The tower is used for the specific purpose of holding the fire water tank which had to be 20 feet above the highest point of the stage.

•

INTERIOR

The vast size of the auditorium made impossible the same scale and type of architecture as the exterior design. An entirely different style treatment but in keeping with the classical precedents was attempted. The difficulties of the problem can be realized by comparing the space enclosed by the auditorium with the largest room developed by the Colonial builders. Even the memorial room on the second floor of this building, which is comparatively small, is larger than any room built in this country during the Colonial period.

The auditorium provides the necessary mechanical equipment and acoustical effects. Perforated panels give sound absorption.

•

COLOR SCHEME

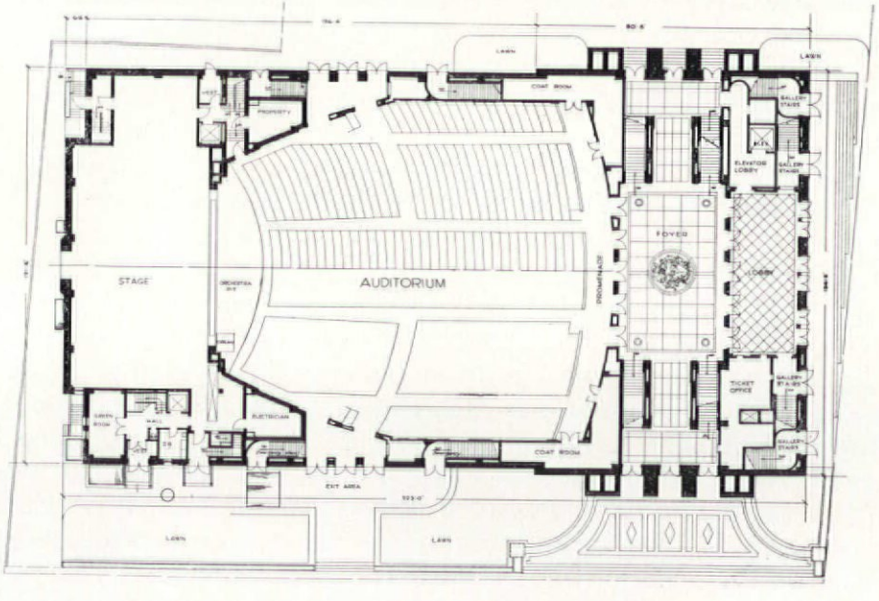
In the auditorium the lighting is designed so that it can be changed to any color in the spectrum. The walls were therefore kept a neutral French gray and the ceiling painting was done in black, white, gray and gold. The seats and hangings are magenta red, selected by experiments under special lighting conditions.

The memorial room is in natural color with the ceiling slightly tinted.



Palmer Shannon

BUSHNELL MEMORIAL BUILDING
HARTFORD, CONN.
CORBETT, HARRISON AND MACMURRAY, ARCHITECTS

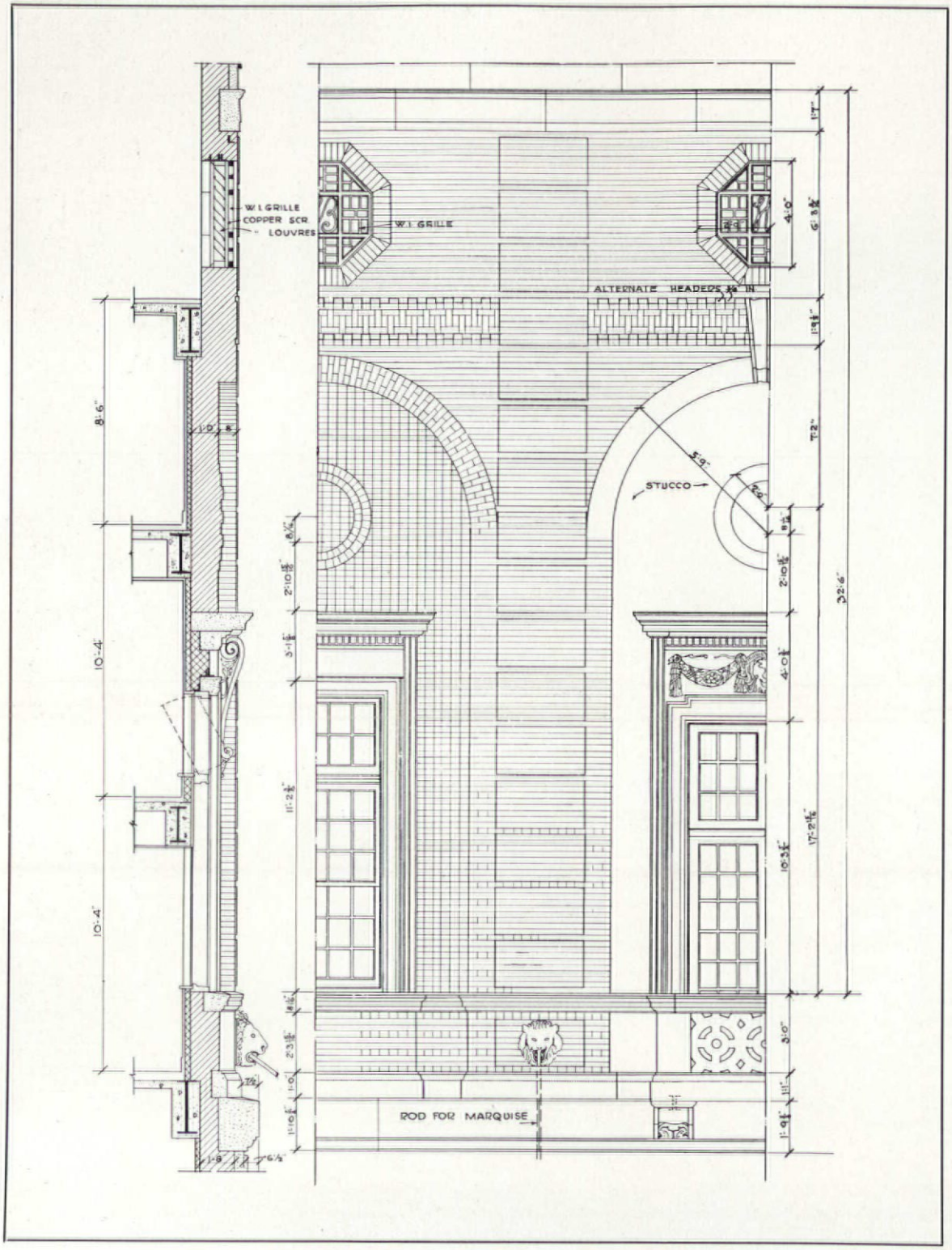


GROUND PLAN



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BUSHNELL MEMORIAL BUILDING
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CORBETT, HARRISON AND MACMURRAY, ARCHITECTS



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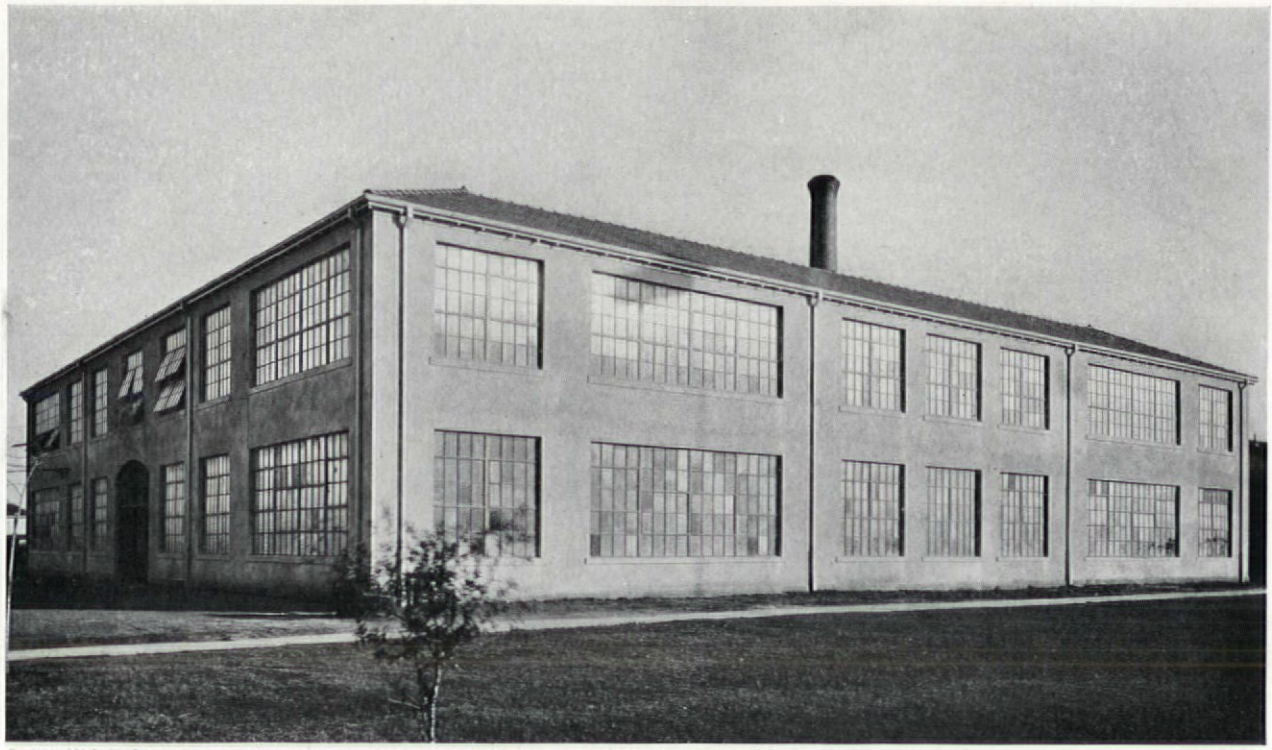


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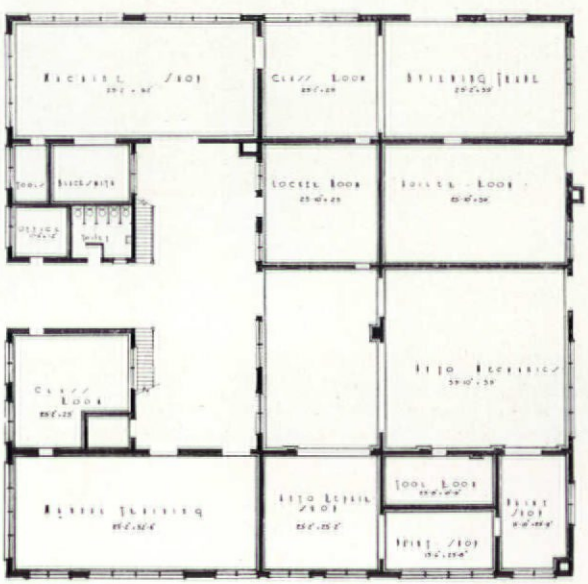
BUSHNELL MEMORIAL BUILDING
HARTFORD, CONN.
CORBETT, HARRISON AND MACMURRAY, ARCHITECTS

THE SOUTH PARK TRADE SCHOOL
BEAUMONT, TEXAS

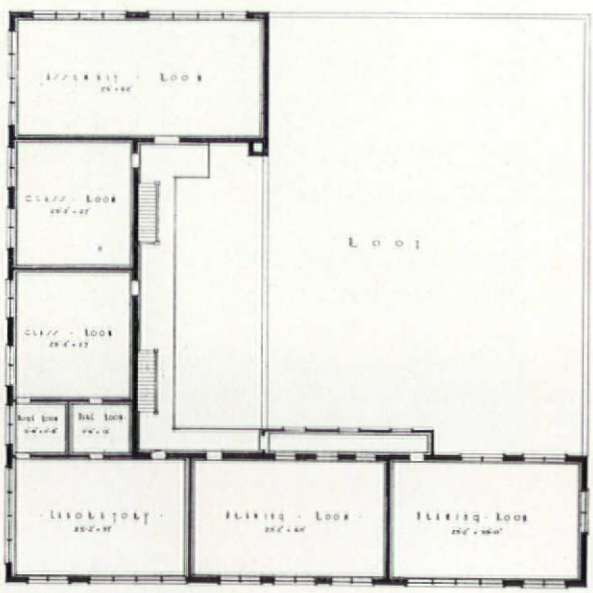
LIVESAY AND WIEDEMANN, ARCHITECTS AND ENGINEERS



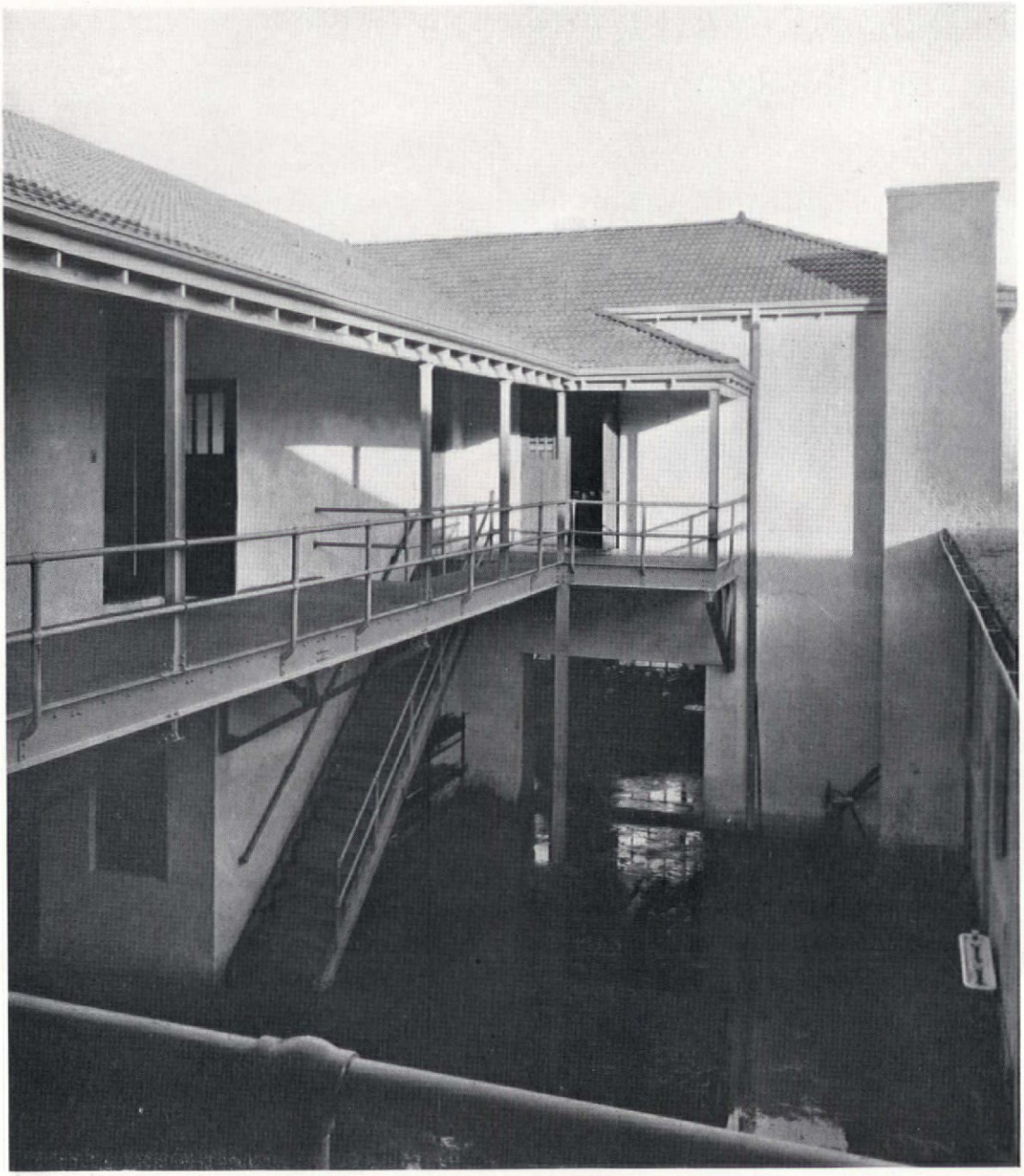
Business Men's Studio



GROUND FLOOR



SECOND FLOOR



Business Men's Studio

SOUTH PARK TRADE SCHOOL, BEAUMONT, TEXAS

LIVESAY AND WIEDEMANN, ARCHITECTS AND ENGINEERS

The school provides facilities for 400 trade students including sixth and seventh grade pupils of a neighboring school who are taking prevocational shopwork. The building has no basement. Shop facilities are on first floor, academic and drafting rooms and laboratories are on the second floor. The large expanse of factory window sash gives exceptionally fine light and ventilation.

A wide entrance gives access to courtyard, stairs and shop, and through it automobiles and delivery trucks can go to the repair and auto mechanics shop. Each main shop has accessories rooms for tools and materials. An assembly room on the second floor, 25' x 32', is sufficient for ordinary assembly purposes. Cost of building was $86,659, or 16c a cubic foot.

CAN THE ARCHITECT PROMOTE MORE BUSINESS?

With each recurrent dip in the economic curve, the architect is reminded of the rather slender footing upon which rests the foundation of his service outlet. A well-maintained office of today requires a more or less constant volume of work merely to meet the *overhead*. When the second city of the land recently touched the "low" of $500,000 in total building permits for one of the spring months, we could picture only inadequately the situation in a dozen large architectural offices whose combined overhead must exceed considerably the utmost commissions to be squeezed from such a paltry market. The attention of the profession may well turn from that mass of gratuitous advice of how the architect is to capture for his individual practice the cream of the current business to the question of how to get any business at all. He realizes afresh that his services are dependent largely upon projects promoted by others. Not only does he find himself at a loss to understand or influence the clogged wheels of progress, but in the reduced building market his services are likely to be curtailed as one of the unessential frills which must be dispensed with under the pressure of economic conditions.

Is architecture a luxury or a necessity? If it is unfortunately, and at times unreasonably, classed as the former, to what extent is the architect to blame and what can he do about it? Is he either practically or temperamentally fitted to engage in business promotion? Such promotion, if undertaken, is two-fold: first, in promoting a greater appreciation of his services in a larger part of building work actually carried forward; second, in helping to promote a larger volume of building particularly in slack times such as the present. Both purposes however, are strikingly linked together in actual practice. In order to promote a greater appreciation of architectural service many suggestions have been offered. It is ethically more appropriate and perhaps more effective for architects to proceed as a group or local chapter rather than as individuals, although it will be frankly admitted that the ripening fruits of such promotion are to be gathered individually by social contact with those who represent the credit necessary to float new projects. This popular cause has been neatly paraphrased in the slogan, "Make the Public more Architect-Minded"! The second and more important phase of promotion is the increase of volume of new building. Should architects individually or *en masse* directly undertake to engage in stimulating new construction?

Unquestionably a large amount of promotional work has been done during the recent years of plenty. An examination of the results, however, will reveal that a considerable percentage of this promotion has taken place with little regard for either the actual needs of the various classes of buildings projected or the requirements of the regions to be served. Promotion highly actuated by the need of credit outlets for capital has left in its wake a trail of overbuilding—office and loft buildings here, "high class" apartments there, factories elsewhere.

If the architect had greater opportunity to promote, could he do any worse? Could he even do better? What are his inherent opportunities as an architect?

If we are to "Make the Public More Architect-Minded," it may be in order to suggest that we "Make the Architect More Public-Minded". In serving clients as individuals the architect has come to regard his practice, and with it the welfare of the public, as an essentially individualistic procedure. However, looking back to precedents of great architectural accomplishments (to which we have perhaps too long looked back for stylistic inspiration), do

we find these accomplished by individual initiative? Some perhaps, but for the most part they represent community action. Even where the will to create has been centered in the monarch or despot the building has been accomplished through mass belief that it was of value to more than the immediate generation.

Is the appeal to the individual home interest, on which so large a part of our recent promotional effort has been centered, the only "prime mover" on which modern progress can depend? Acquire a home and then realize the deficiencies if your environment has been the unfortunate experience of countless thousands during the past generation. Here is a single problem about which more muddled agitation has been taking place than perhaps any other. Not only is it large enough to occupy a considerable part of the thought of the profession, but it represents by far the largest block of normal building construction and probably the smallest percentage of architectural participation. Some advance may be shown by statistics over the past ten-year period, but does it yet represent more than a fraction of its possible importance to the architect or his possible contribution to the community?

In the recent announcement of a Washington conference on home building there is an indication of some appreciation of the importance of city planning and contingent factors, yet the emphasis has been centered largely on better financing. No one will deny the importance of credit in stimulating home building, but if credit is merely to add more rows of flimsy, monotonous houses to those unfortunate border communities, which remain to us from the great land booms of 1922–26, we could almost wish that such credit might be suppressed. Only one worse fate could be imagined, that new home-owning agitation may again be used as a cloak to open up more miles of unused vacant lots or sparsely populated wastes of cement sidewalks and rusting utility pipes of which we have acquired enough to satisfy even the most ardent expansionist. Here is a study in regional needs as well as in the changing habits and requirements of the normal family which might well occupy the enforced leisure of local groups in the profession and which, if intelligently directed, might bring forth concrete suggestions, which could be put into operation as a result of the projected conference.

There remains a third factor to the present dilemma. To what extent is standardization and the constantly increasing size of individual projects reducing the quantity of architectural service in relation to the volume of building? If, as it is claimed, one single building now under construction in New York City will furnish the total amount of new office space needed to meet one year's normal business growth, is this trend favorable to professional prosperity? Granted the inspiration and satisfaction in the fact of doing well a gigantic structure, does not this great pile, even with its lobby and significant bronzes, represent more uniformity than a dozen equally simple and effectively designed structures representing a corresponding total expenditure? This is suggested only as an abstract speculation, which, however, might lead the Institute through an active committee to discover over a period of years some of the economic principles which should underly the disposition of commercial structures in relation to eventual civic economics. We may safely take the chance that these will vary from the current deduction of minimum skyscraper sizes based upon the immediate relation of rentals to existing land prices in large cities. However, we may inquire to what extent the architect heedlessly falls into the general movement toward bigger and therefore "better" buildings. I have in mind a certain commission for the building of a large private school in which working plans were under way for a single main building containing a multitude of halls and stairways, when one of the designers suddenly had a "hunch" that a series of smaller units would be more economical and practicable. The result was

a far more satisfactory and interesting project fitted with much painstaking care into a difficult though effective site. The architects were required to perform a greatly increased amount of service in relation to the total expenditure, although the latter was probably less in actual dollars and certainly much less in relation to usage value in the conduct of the school than would have been the case if the building had been completed under the more stereotyped design. Although such services might not prove normally advantageous under minimum ethical charges, I leave to the reader the question to what extent the architect may profit over a period of years by contributing more generously not only to that side of planning which can be expressed in terms of design and specification, but also to that equally important field related to the basic needs of humanity in which he will scarcely duplicate the efforts of those engaged in the more usual channels of promotion.

HENRY WRIGHT

HOW ARCHITECTS MAY CULTIVATE BUSINESS

VALUE OF ARCHITECT MEASURED BY SERVICE

The cultivation of business for the architect resolves itself into a scientific study of what the architect can do. In many instances the failure of architects to attract new business is due to a lack of organization or insufficient consideration of the variety of services which an architect could and should render. Investigation will indicate that architects who are achieving an increase in business are the aggressive individuals who seek out their commissions. They investigate and develop new enterprises with all the energy and accuracy that modern business practice makes possible. They establish confidence by the success of their completed buildings—a success that is more often practical than esthetic. In the development of their projects they assure themselves and their clients that the venture is financially justified. They take a cue from the business man and the manufacturer and realize the value of exhaustive preliminary research study of the client's problems in the light of facts scientifically gathered.

MEASURING THE NEED FOR ARCHITECTURE

In order to render a wider and more general service the architect must thoroughly understand his locality, whether large or small and also the potential demand or necessity for new buildings and building enlargement.

STUDY OF COMMUNITY

Determine the potentialities for constructive improvement and consequently for commissions. Of even more importance, assume a leadership in shaping the community growth by informed acquaintance with all the factors that make for better city growth and improved planning and design of buildings.

It is imperative that the architect should undergo a period of educational preparation under the following items:

1. *Study the existing plan of his community.* He should acquaint himself with the latest practice in town planning abroad and in America. He should undertake the preparation of a scheme of town development.

2. *Study present and past building progress* in the locality and elsewhere so as to anticipate need for stores, offices, schools, churches, garages, civic improvements. He will find that a growing section gives promise of increasing building needs, while a section that is decreasing in population is ordinarily oversupplied and requires few improvements.

3. *Survey housing requirements* in order to determine housing needs or excess.

4. *Study population movements.*

5. *Survey labor and building materials costs.*

6. *Acquaint himself with transportation facilities and needs* in relation to city growth. The traffic problem, allied to transportation, is one of the most serious and important of problems confronting city governments; and there is no group of persons more concerned in the need for traffic improvement and its relation to building than architects.

7. *Study and endorse improved planning of houses and other buildings* for greater convenience and improved health.

8. *Study and endorse newer construction methods and new materials if better.*

SERVICES WHICH AN ARCHITECT SHOULD RENDER

1. Assume a leadership in civic affairs.

2. Sponsor zoning that will contribute to a systematic and balanced growth of the city.

3. Serve as advisory architect to community, to industry, banks, corporations and individuals.

4. Master requirements of all city, county and state ordinances as they apply to building, health and fire protection.

5. Prepare financial "set-ups" for clients to ensure security of building investment.

6. Prepare plans and specifications.

7. Make exhaustive investigation of the use of a site or development of plans to ascertain all possibilities for the utmost success of undertaking.

8. Supervise construction.

PROMOTION

Here are some of the methods in common use by architects in getting business:

1. *Influential social connections*, political friendships, financial interest (owning stock in corporation concerned in building).

2. *Firm prestige*, successful outstanding buildings.

3. *Direct solicitation.*

4. *Follow-up of former clients.* The successful accomplishment of buildings for clients may prepare the way for new projects, additions, or recommendation to other clients.

5. *Leads from real estate brokers.*

6. *Specialization.* Building up a reputation on a type of building such as schools, churches, residences, hotels, loft buildings. The leadership of such an architect will be based on experience, lower cost due to quantity of construction and shortcuts acquired by experience. It is easier to solicit and gain commissions on the basis of work done. Specialization makes for greater efficiency in layout.

There are disadvantages in specialization, such as fluctuation in demand for buildings of one type, resulting in costly lulls. Office force trained in one specialty will show less competency in a new field.

7. *Use of construction reports.* The announcements of new projects are sometimes made before an architect is selected and may by direct solicitation lead to commissions.

8. *Personal promotion of projects* in cooperation with others. Apartment houses, office buildings, residential subdivisions are sometimes developed and partly financed by architects.

9. *Advertising services of architects* in a locality. The primary purpose of cooperative advertising is to promote education of the public as to the value of the architects' services.

10. *Competitions.* The winning of competitions may mean recognition of ability and other jobs.

11. *Remodeling of abandoned or rundown properties*, with modernization of utilities and improvement of plans and exteriors.

12. *Group practice.* The unified efforts of architects have frequently been successful in acquiring school and public improvement projects. Architects have come to realize that the prosperity of the individual depends in a large measure on the prosperity and energy of the group.

13. *Restudy of abandoned schemes* with a

better solution or a more economical system of construction or finance.

14. *Sponsoring new buildings* in a community where investigation discovered the need for such buildings. The success of a type of building in a neighboring community has sometimes suggested the desirability of a similar building in the architect's locality.

A. Lawrence Kocher

CASES:

HOW ARCHITECTS DEVELOP BUSINESS

BUSINESS ANALYSIS

Example: *Shreve, Lamb and Harmon, architects.*

Success, according to this architectural firm, means proven ability not only to design and build but also to conceive and execute the entire project in a *profitable* manner.

Preliminary designs by this architectural firm are done on the typewriter as well as on the drafting board. The client's problems are ascertained and analyzed: value of property, preferences for certain types of office space in particular localities, probable rental value of floor space as determined by the owner or his rental agent, set-back requirements and similar factors are considered. Given the cost of the plot and the rental demanded, the architects analyze the ratio of floor space to plot area required to return the desired income, making due allowances for financing, initial vacancies, maintenance, et cetera.

The extent of this procedure is illustrated by Mr. Shreve's answers to questions asked by newspaper reporters as to what materials would be used for the exterior and where the entrance would be in the new Empire State building. In each instance Mr. Shreve replied that he did not know and bringing out a typewritten sheet with a column of figures, and remarked, "This is the design for the building."

This procedure of designing an income-producing building for office space, according to Mr. Shreve, has not always been the point of view of the architect. A sound analytical approach to any architectural problem is more important than specialization in any one type of architectural work, he believes. The technique applied to analyzing an office building can also be used in designing a school building, a library or a bank.

ALTERATIONS OR NEW BUILDING?

Example: *Robert D. Kohn, architect.*

It is essential for the architect, according to Mr. Kohn, to be able to reduce the cost of a new building to terms of yearly carrying or rental charges.

In the case of Macy's Department Store, the owners wanted a recently acquired building remodeled and connected with their existing store. Mr. Kohn made sketches and estimated the cost of doing this work. At the same time he prepared sketches and cost estimates for a new building. Both estimates were reduced to an annual carrying charge or rental basis and showed the owners that it would be possible for them to have a new building which would eliminate objectionable features, such as exposed sprinkler systems and differences in floor levels between the two buildings, for an additional yearly carrying charge of 60 cents a square foot. With the proposition submitted in this form the owners decided to construct the new building.

Mr. Kohn emphasizes the necessity of architects being able to estimate correctly the cost of a job so that the client will not be annoyed in meeting a final bill much higher than anticipated. A fairly accurate cost estimate can be prepared in cooperation with contractors and an allowance added for contingencies.

R. L. Davison

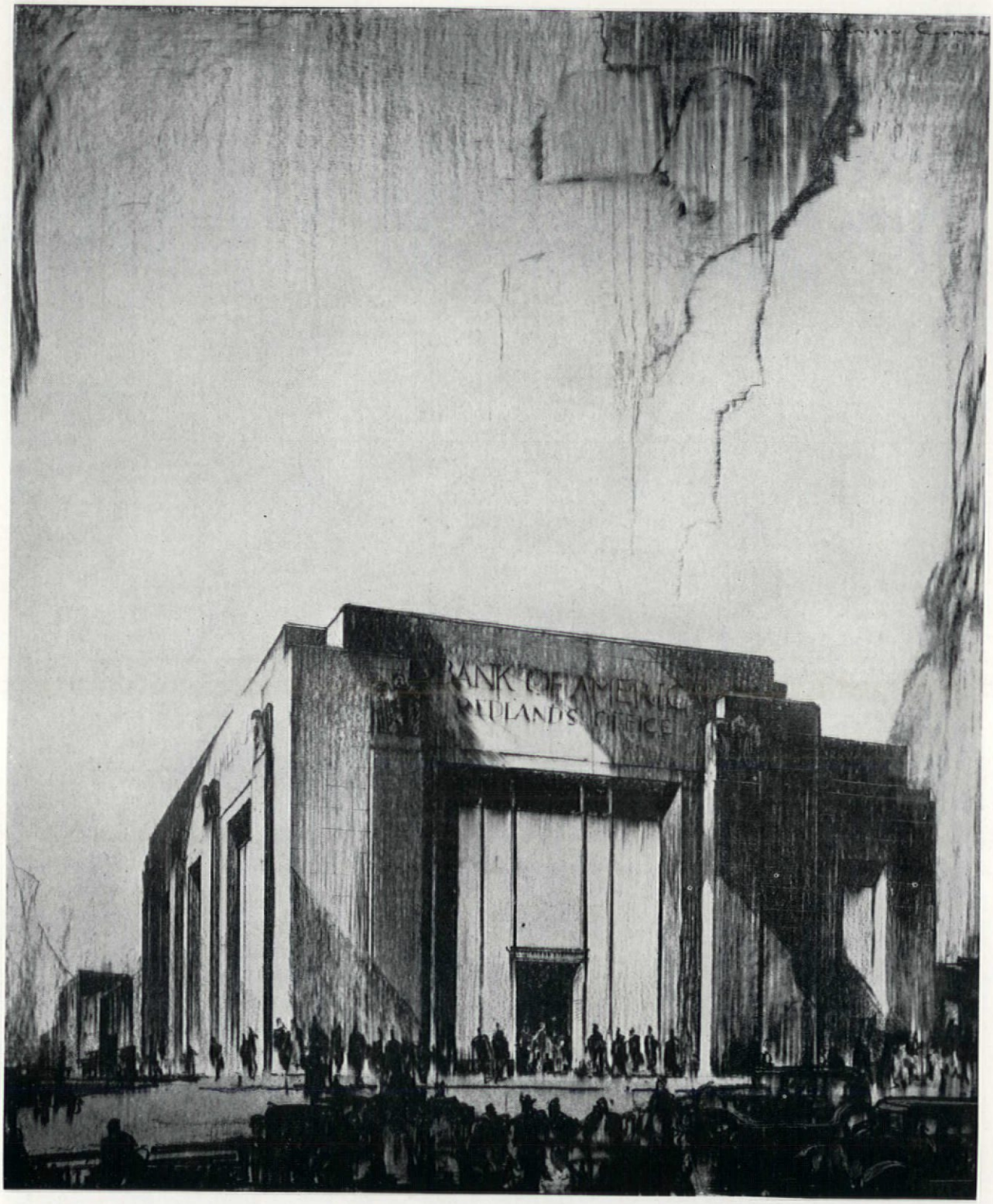
PORTFOLIO OF BANKS



BANK OF AMERICA
BAKERSFIELD, CALIF.
SWASEY AND HAYNE, ARCHITECTS

BRANCH BANKS

Examples of banks in this PORTFOLIO have been chosen for their suitability to the chain bank system. Similarities in treatment of exteriors, whether in this country or in Panama or South America, are readily apparent. Plans, however, differ for the different requirements of the branch banks.

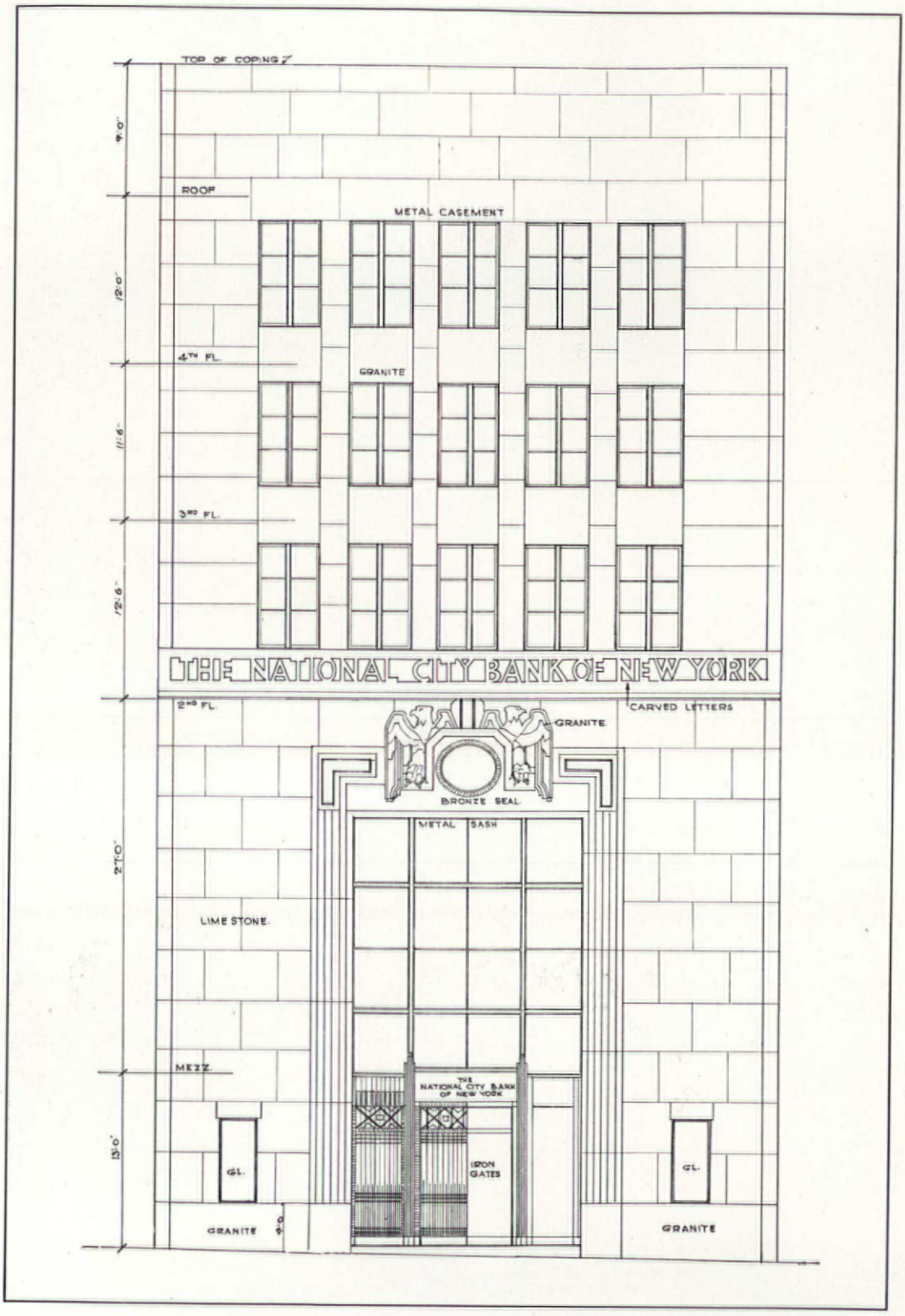


BANK OF AMERICA
REDLANDS, CALIF.
SWASEY AND HAYNE, ARCHITECTS



Gillies

NATIONAL CITY BANK OF NEW YORK
BROOKLYN, N. Y.
WALKER AND GILLETTE, ARCHITECTS



NATIONAL CITY BANK OF NEW YORK
BROOKLYN, N. Y.
WALKER AND GILLETTE, ARCHITECTS

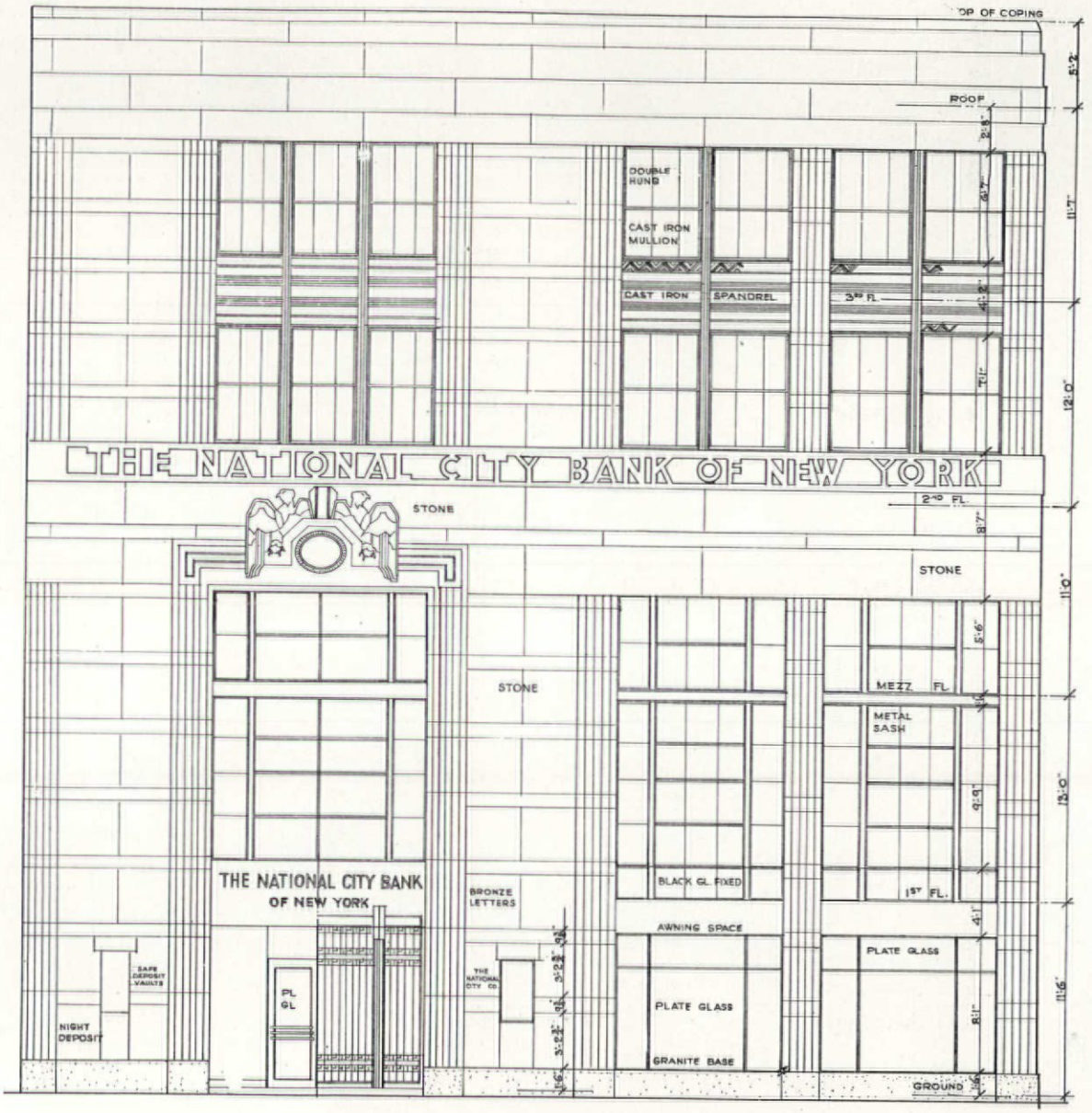


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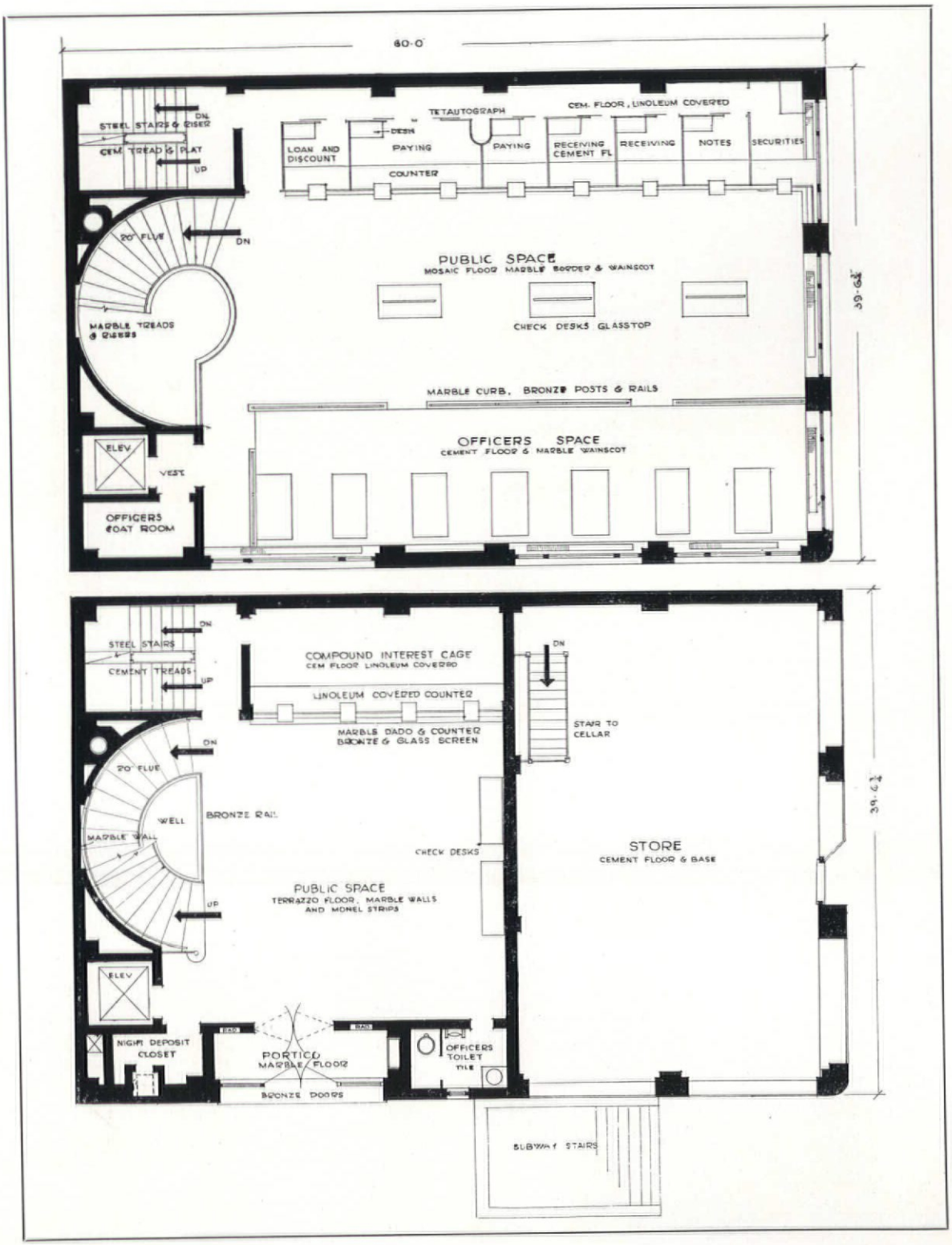
NATIONAL CITY BANK OF NEW YORK
BROOKLYN, N. Y.
WALKER AND GILLETTE, ARCHITECTS

ELEVATION DRAWING
34TH STREET FACADE

Bank occupies upper floors and only part of ground floor, the remainder of this space yielding additional rental from shops on 7th Avenue.



NATIONAL CITY BANK OF NEW YORK
34TH STREET AND 7TH AVENUE, NEW YORK
WALKER AND GILLETTE, ARCHITECTS



NATIONAL CITY BANK OF NEW YORK
34TH STREET AND 7TH AVENUE, NEW YORK
WALKER AND GILLETTE, ARCHITECTS



Gillies

NATIONAL CITY BANK OF NEW YORK
34TH STREET AND 7TH AVENUE, NEW YORK
WALKER AND GILLETTE, ARCHITECTS



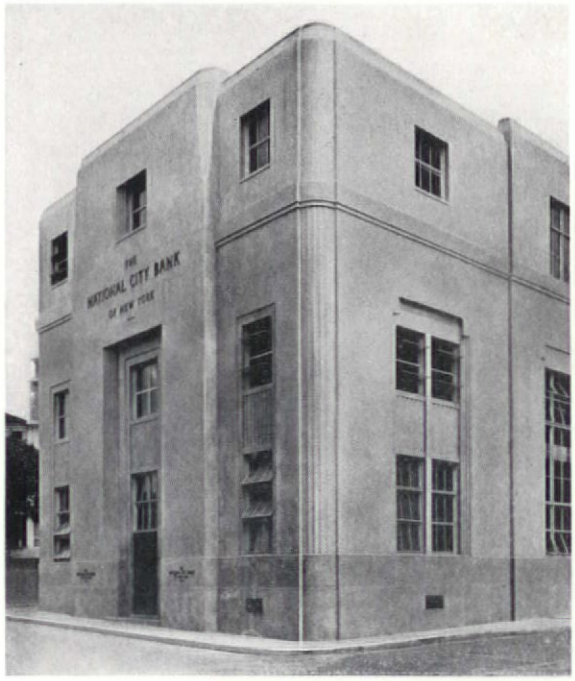
Gillies

NATIONAL CITY BANK OF NEW YORK
34TH STREET AND 7TH AVENUE, NEW YORK
WALKER AND GILLETTE, ARCHITECTS

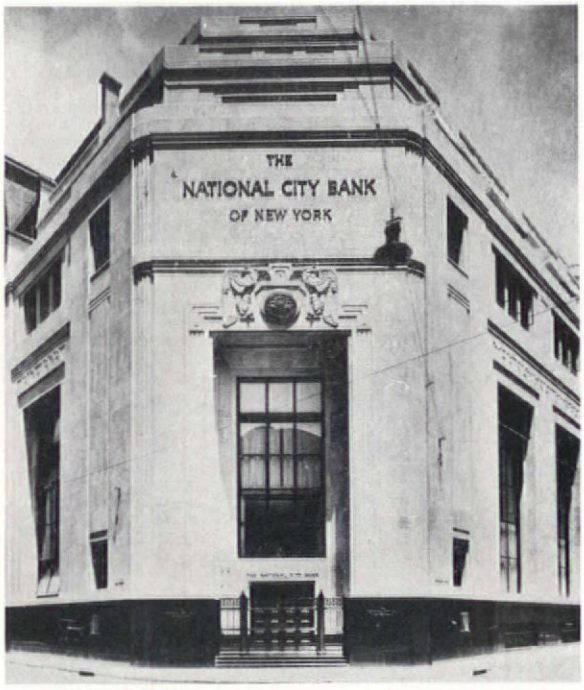


Gillies

NATIONAL CITY BANK OF NEW YORK
34TH STREET AND 7TH AVENUE, NEW YORK
WALKER AND GILLETTE, ARCHITECTS



PANAMA BRANCH



BUENOS AIRES BRANCH



Gillies

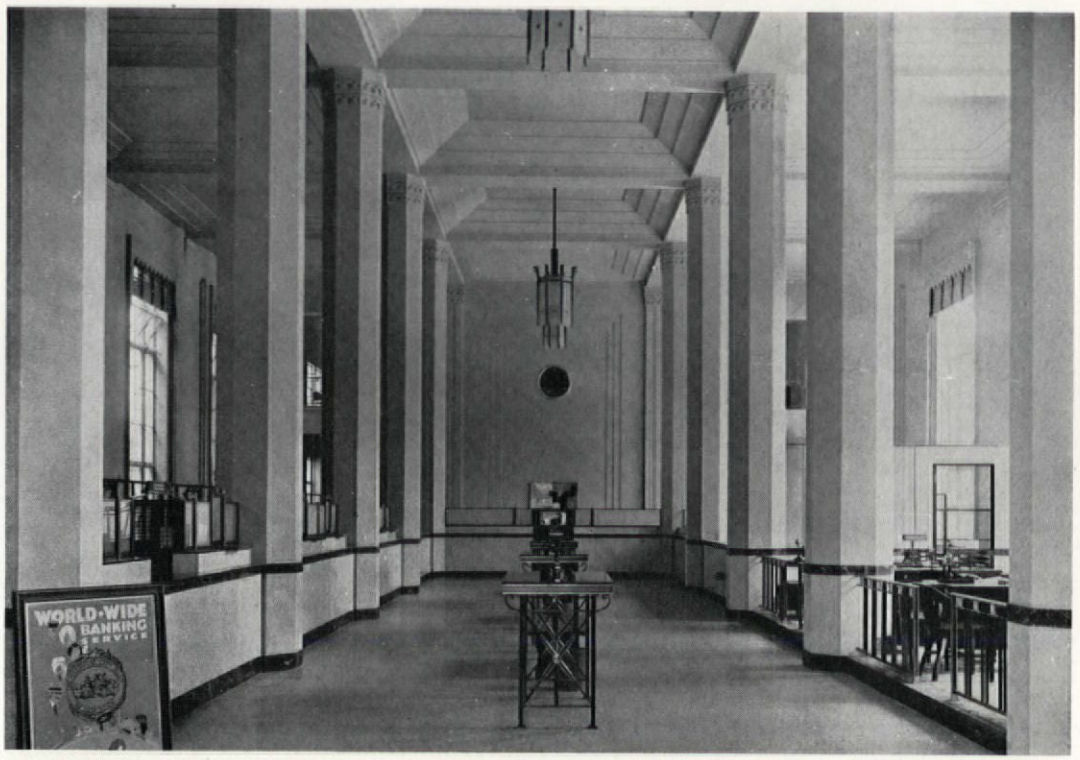
BROOKLYN, N. Y., BRANCH



Fischer

NEW YORK CITY BRANCH

NATIONAL CITY BANK OF NEW YORK
WALKER AND GILLETTE, ARCHITECTS

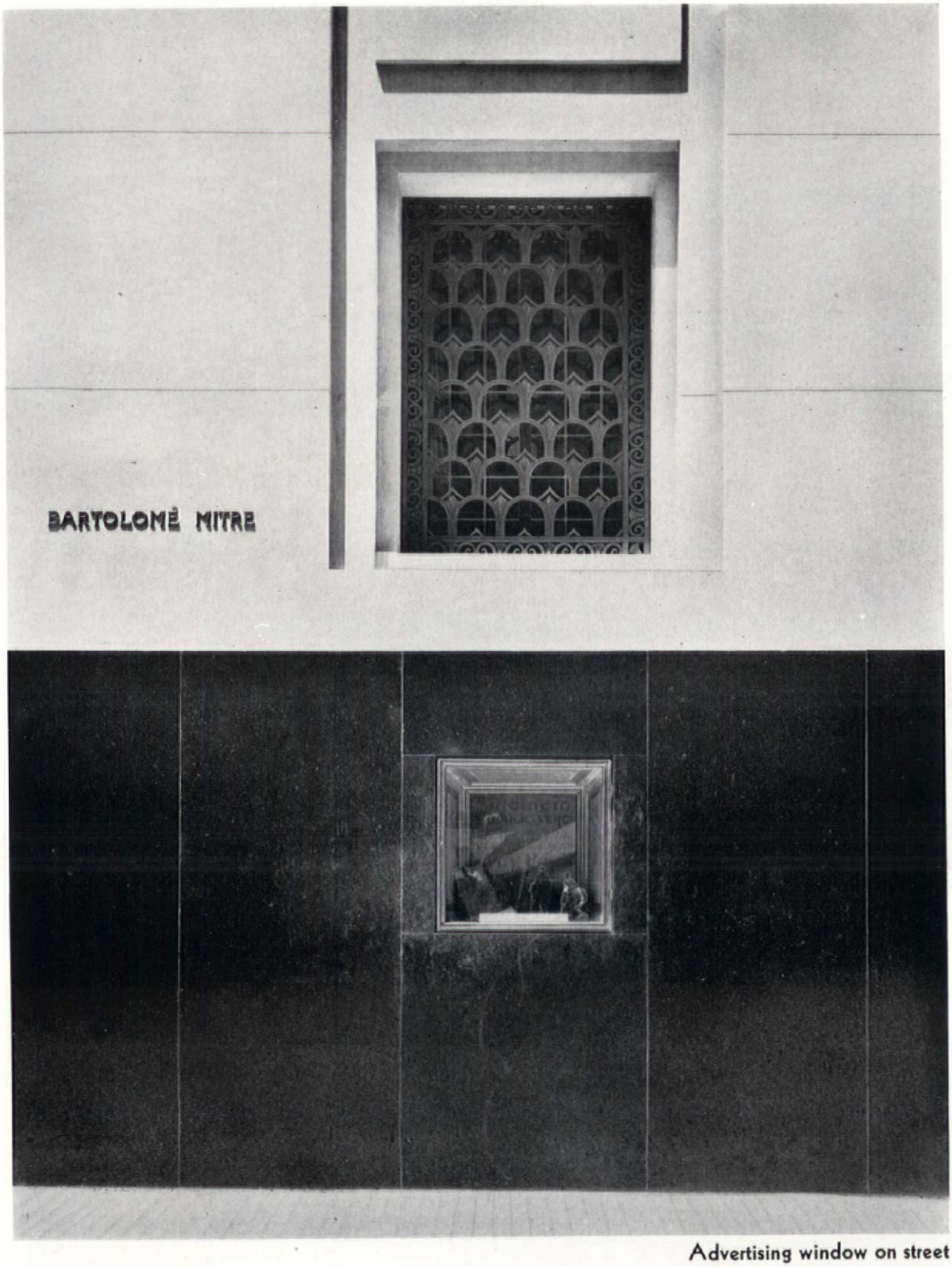


Main banking room



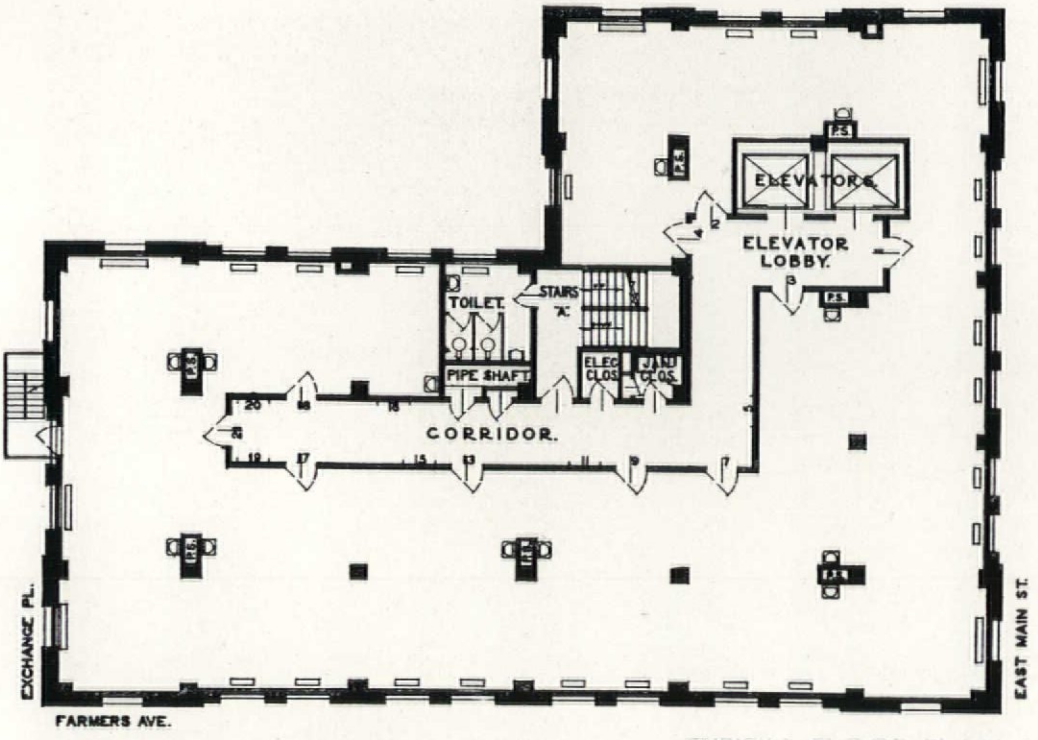
Foreign exchange window

NATIONAL CITY BANK OF NEW YORK
PANAMA BRANCH
WALKER AND GILLETTE, ARCHITECTS

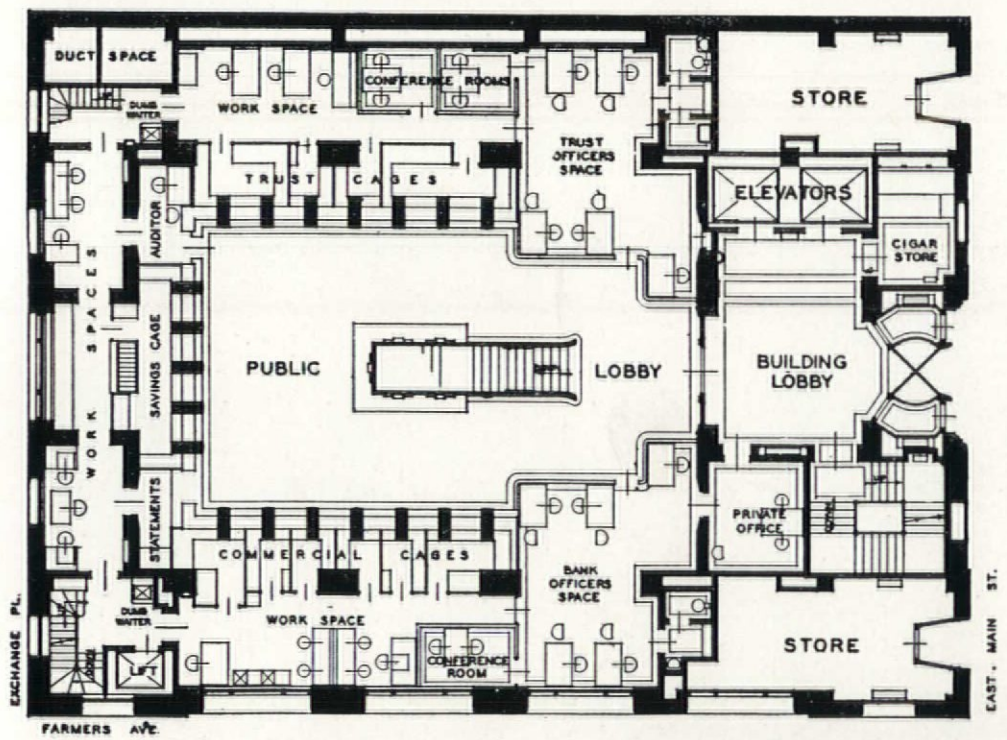


Advertising window on street

NATIONAL CITY BANK OF NEW YORK
PANAMA BRANCH
WALKER AND GILLETTE, ARCHITECTS



TYPICAL FLOOR PLAN



FIRST FLOOR PLAN

BANK OF KALAMAZOO
KALAMAZOO, MICH.
WEARY AND ALFORD, ARCHITECTS



BANK OF KALAMAZOO
KALAMAZOO, MICH.
WEARY AND ALFORD, ARCHITECTS



BANK OF KALAMAZOO
KALAMAZOO, MICH.
WEARY AND ALFORD, ARCHITECTS

ARCHITECTS' INSIGNIA

By
VICTOR GIFFORD



DENNISON AND HIRONS

The plan titles of architects not only set the stamp of genuineness upon drawings, but they frequently disclose individuality of architect. Although titles in the form of cartouches are obviously an expensive flourish to the actual drawing, and necessitate additional drafting which otherwise might be spent to better advantage, nevertheless in many cases they embellish the drawing.

The title of Dennison and Hirons is of the classical order, having a cartouche flanked by two nude figures and surrounded by Louis XV scroll design. The initials comprise the center motif: two D's face each other with a horizontal bar running through the center, forming an H.

The plan label of McKim, Mead and White is of classical design, characteristic of the work of this firm of architects.

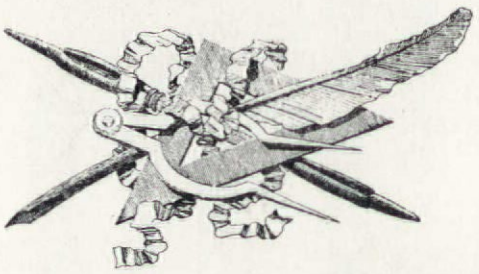
Architects do not confine themselves to one style of title design, as shown by the two examples by George B. Post and Sons.

The label of Leigh French, Jr., is very characteristic, the quill being symbolic of his ability as an author on architectural subjects and the dividers, pencil and triangle, all interwoven by a ribbon, showing his profession as an architect.

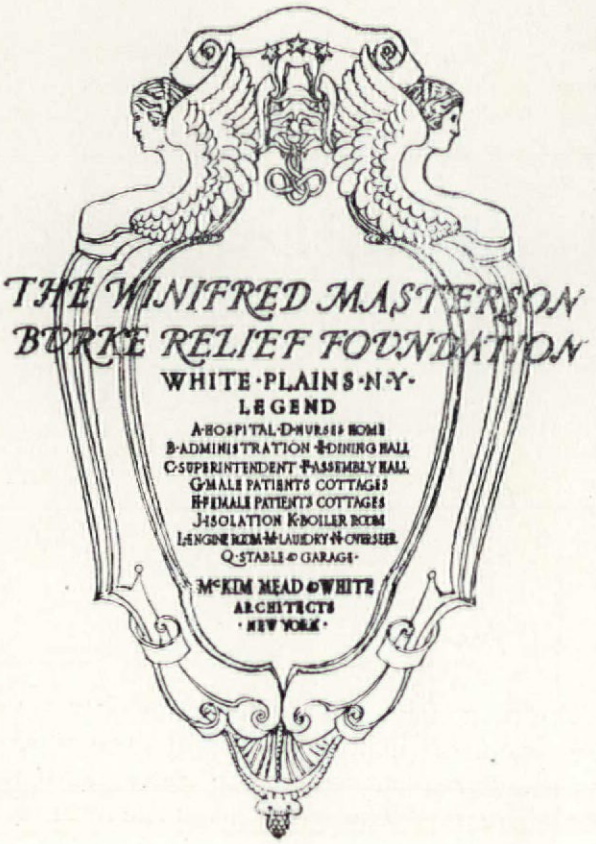
Cross and Cross, architects of the Barclay Hotel, designed a title for their exhibition drawing which the hotel later used on the linen and silver. The designer of the thistle emblem and scroll evidently had in mind the fact that the owner of the hotel was of Scotch ancestry.

The cartouche and ribboned title by the firm of Goodwillie and Moran shows a design with a center motif appropriate to the drawing it was to adorn, the R being the surname initial of the owner.

An interesting label, denoting the architectural profession, is that of the firm of Delano and Aldrich. A protractor very appropriately designates the letter D, and a pair of dividers an A.



LEIGH FRENCH JR





CROSS AND CROSS
ARCHITECTS



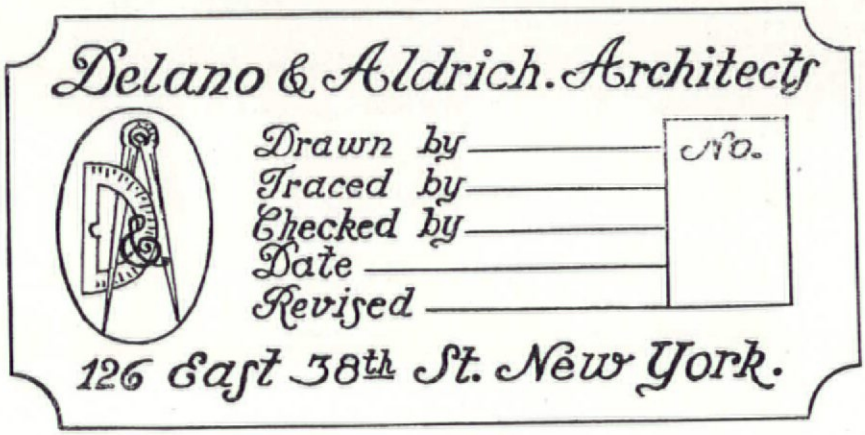


ARCHITECTS' INSIGNIA



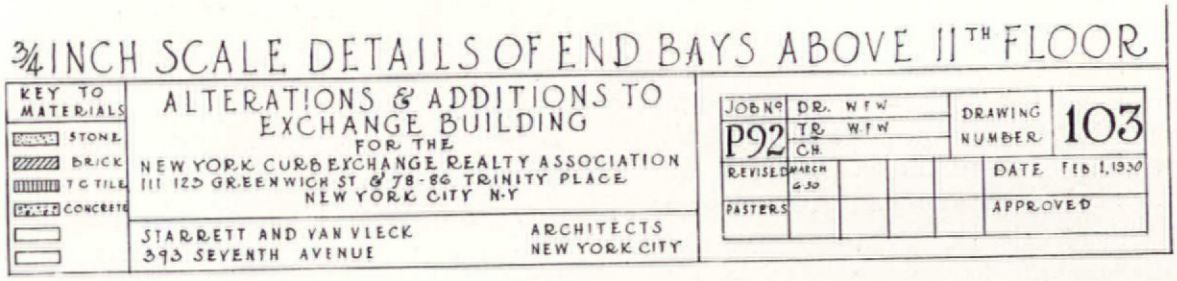


GOODWILLIE AND MORAN
ARCHITECTS



Design for a stamp which saves time in drafting.

The present tendency is toward simplification in drafting. The cartouche type, although artistically presented, requires too much painstaking work and time, and is not as informative as the average working drawing label.



ARCHITECTS' INSIGNIA



AN ENGLISH GARDEN VILLAGE

SILVER END, WITHAM, ESSEX

In 1926, as the result of the acute housing shortage, the Crittall Manufacturing Company, Limited, began building operations for a garden village midway where employees could live within easy distance of their work.

For this project buildings were designed by Sir John Burnet and Partners, James Miller, C. Murray Hennell, C. H. D. Quennell, Joseph Clare and G. E. Clare, architects.

•

FIVE HOUSE TYPES AND COSTS

The village comprises 400 completed houses, all with large gardens and built no closer than ten to the acre. These houses can be broadly classified into five types:

Managers' houses, sold at prices ranging from $6,500 to $8,550;

Detached four-bedroom houses, $3,800;

Detached parlor houses, $3,400;

Parlor houses (containing parlor, kitchen, scullery, three bedrooms, and bath), from $2,100 to $2,600;

Non-parlor houses (containing three bedrooms), from $1,650 to $1,950.

The majority of these houses have been sold to the tenants on a 20-year purchase system, the weekly purchase rental being approximately $4 for the non-parlor type and $4.50 for the parlor type. This price includes water and ground rent.

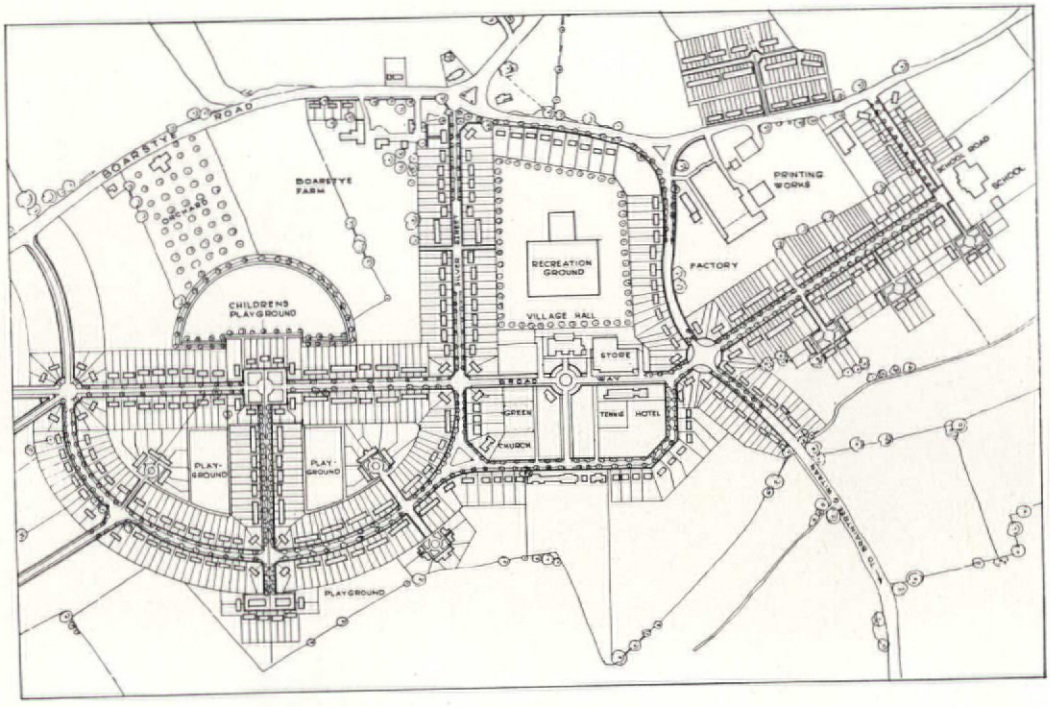
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VILLAGE FEATURES

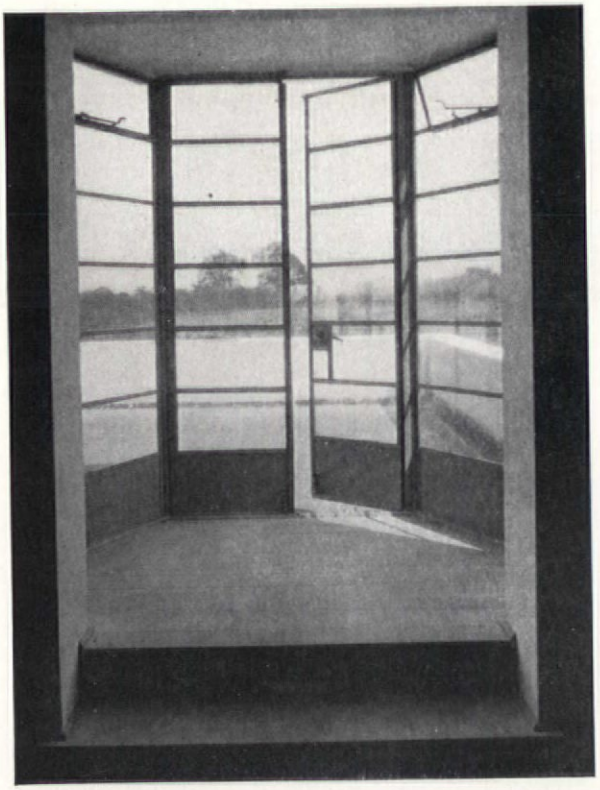
Since the beginning of the project additional surrounding lands have been purchased, forming an agricultural belt of approximately 700 acres where food is produced for the village.

In the center of the village is a large department store where the products of the village are sold to the inhabitants. This store serves for butchery, bakery, drapery, grocery provisions, furniture, drugs, outfitting, et cetera. There is also a fully licensed hotel with 16 bedrooms.

The village water supply is pumped in from a spring two miles away. A power station using oil engines supplies the village and factories with power and light.



PLOT PLAN OF VILLAGE

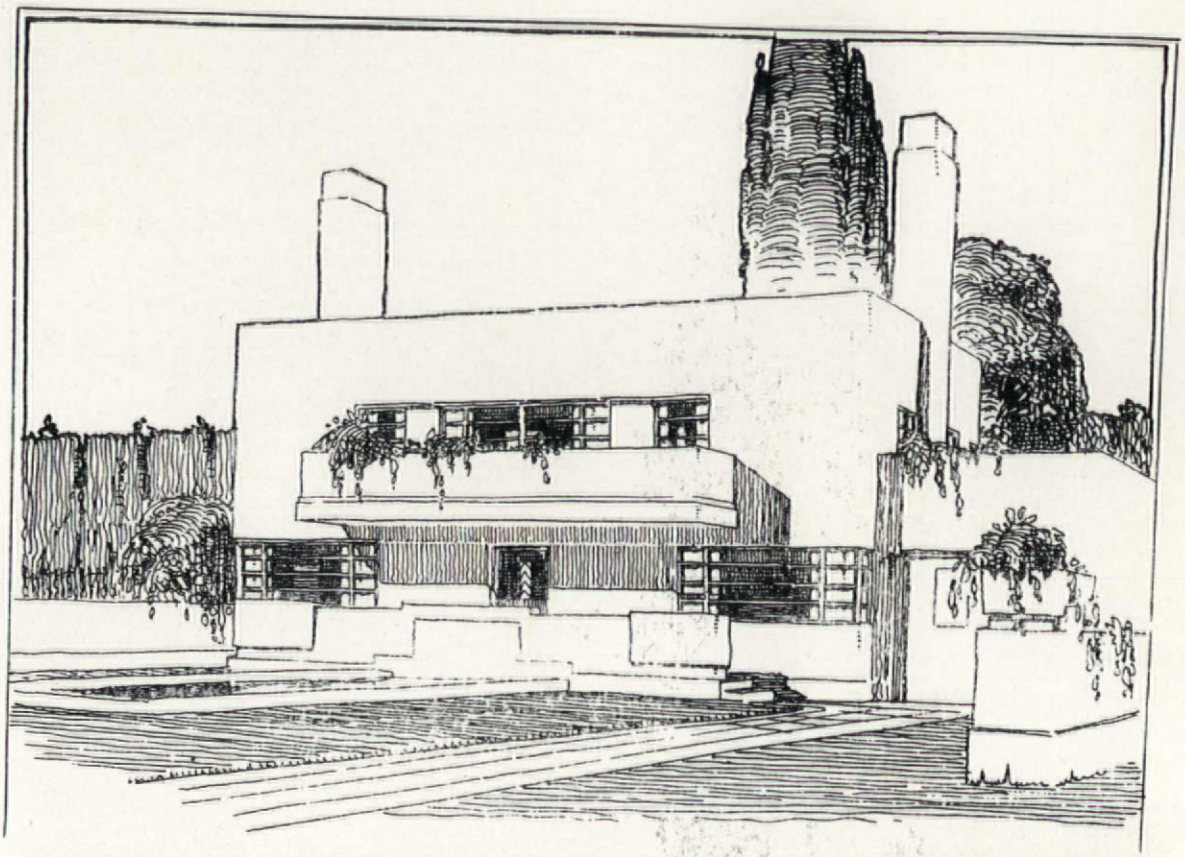


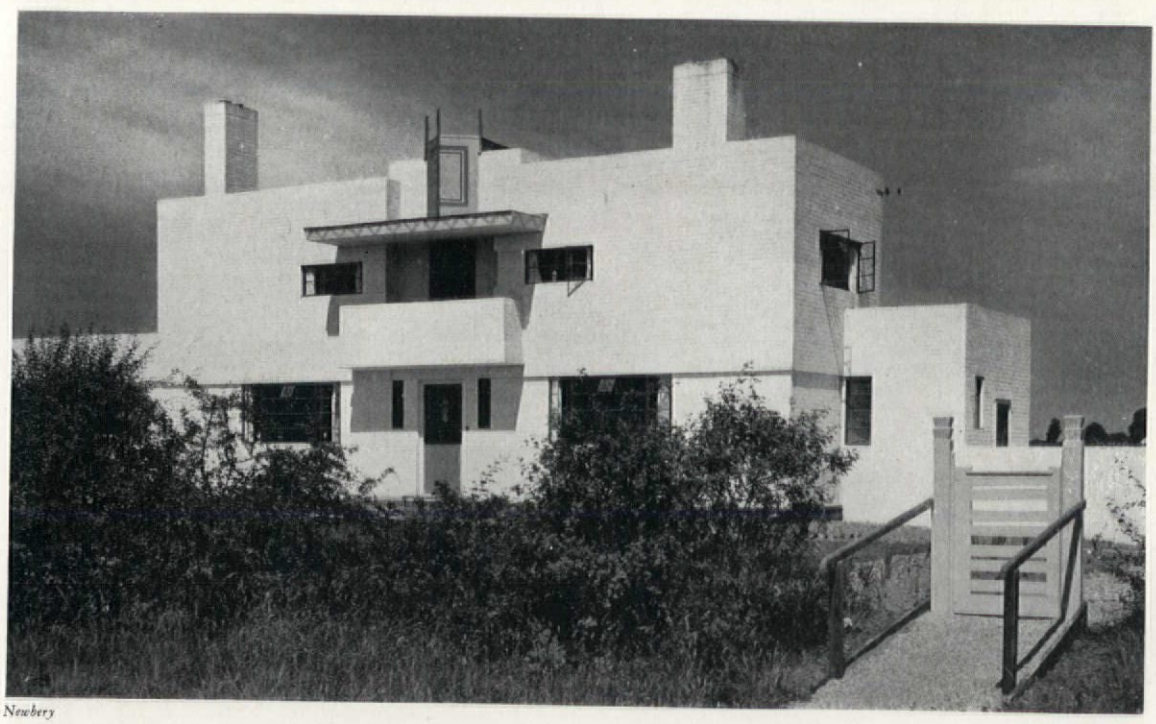
Interior of Bay



Exterior of Bay

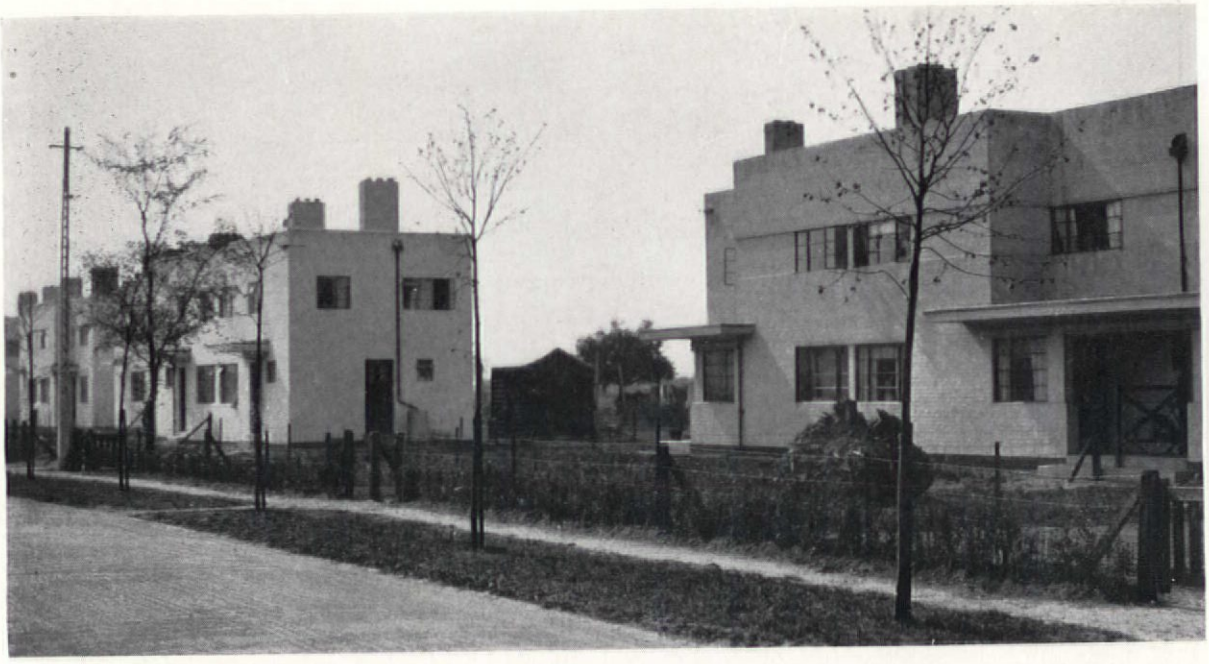
SILVER END GARDEN VILLAGE
ESSEX, ENGLAND
JOHN BURNET AND PARTNERS, ARCHITECTS





Newbery

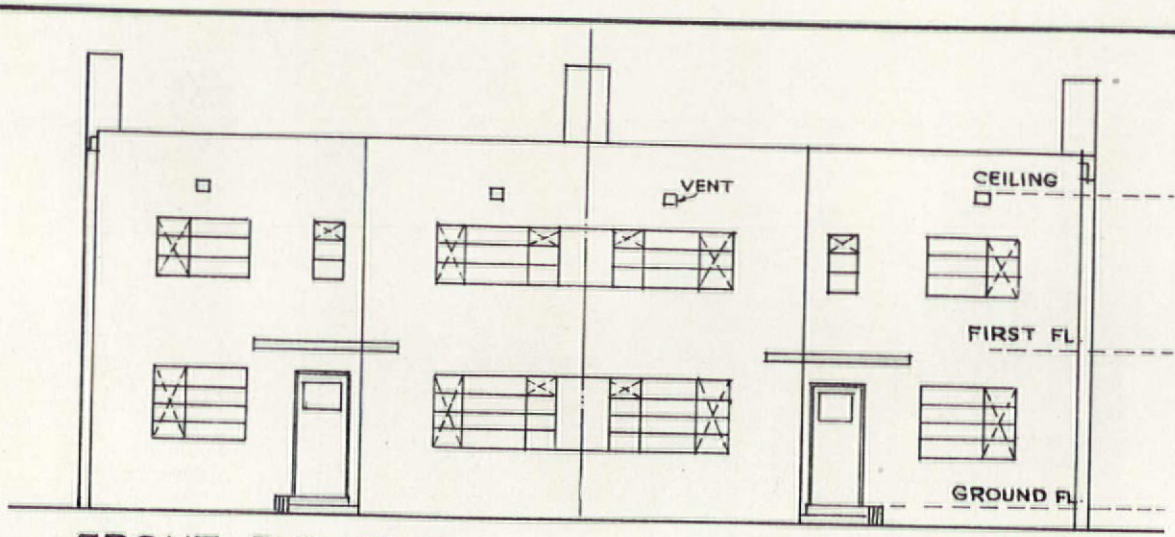
HOUSES AT SILVER END GARDEN VILLAGE
ESSEX, ENGLAND
THOMAS S. TAIT OF JOHN BURNET AND PARTNERS, ARCHITECTS



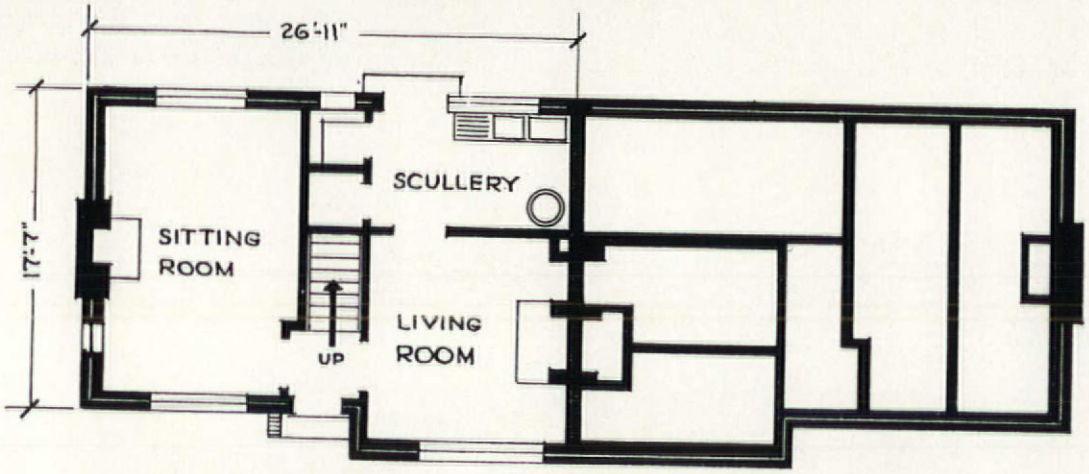
HOUSES ON SILVER STREET



GENERAL STORES AT SILVER END GARDEN VILLAGE
ESSEX, ENGLAND
JOHN BURNET AND PARTNERS, ARCHITECTS

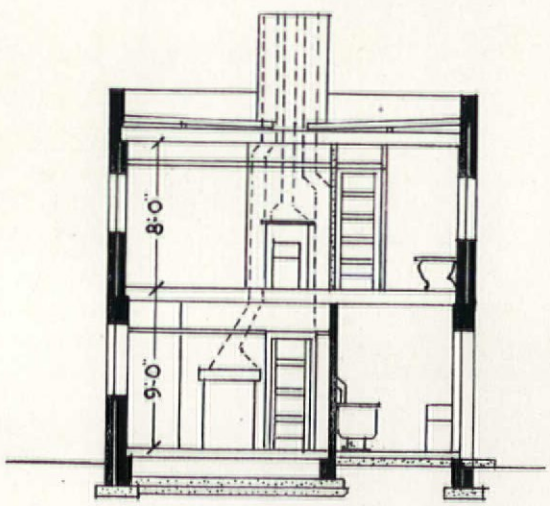


FRONT ELEVATION



GROUND FLOOR

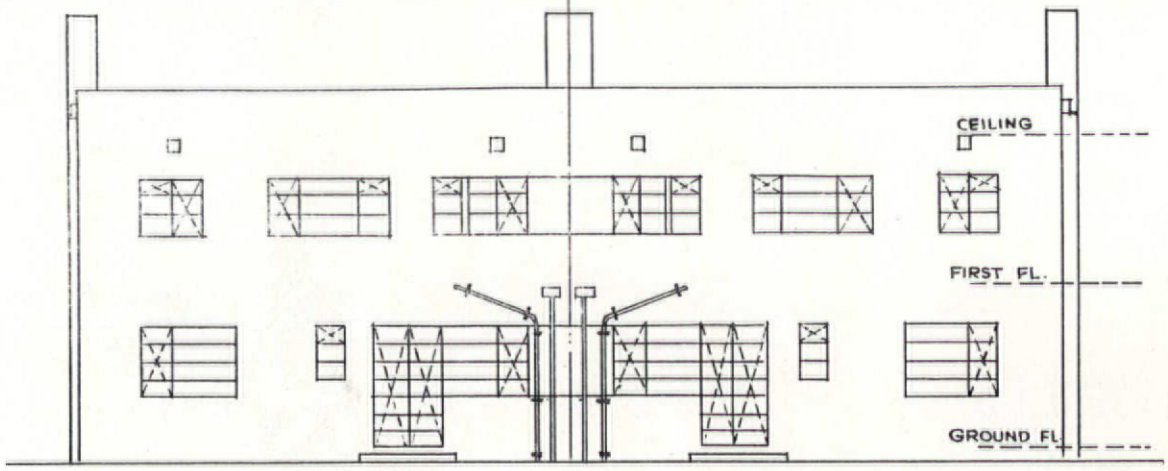
FOUNDATION



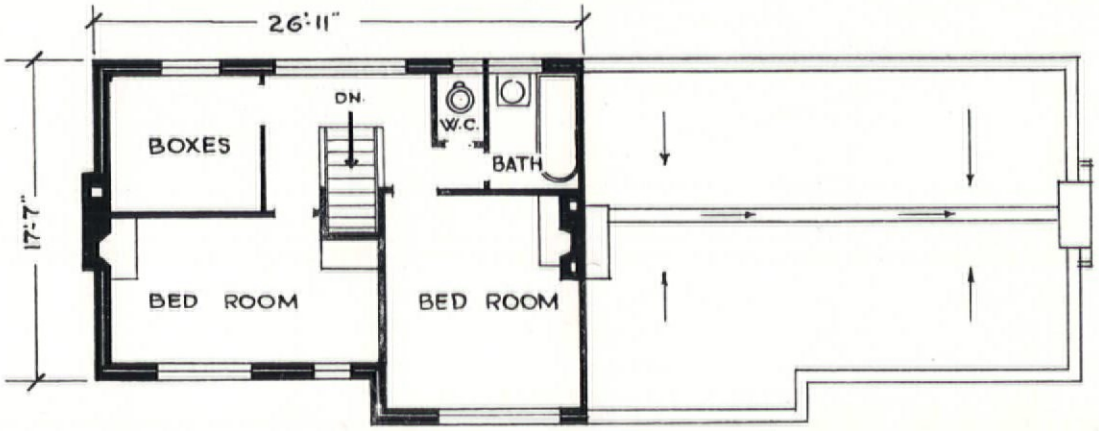
SECTION

SILVER END GARDEN VILLAGE
ESSEX, ENGLAND

JOHN BURNET AND PARTNERS
ARCHITECTS



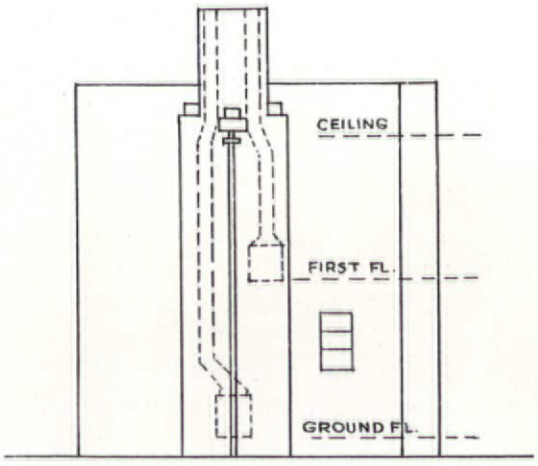
BACK ELEVATION



FIRST FLOOR

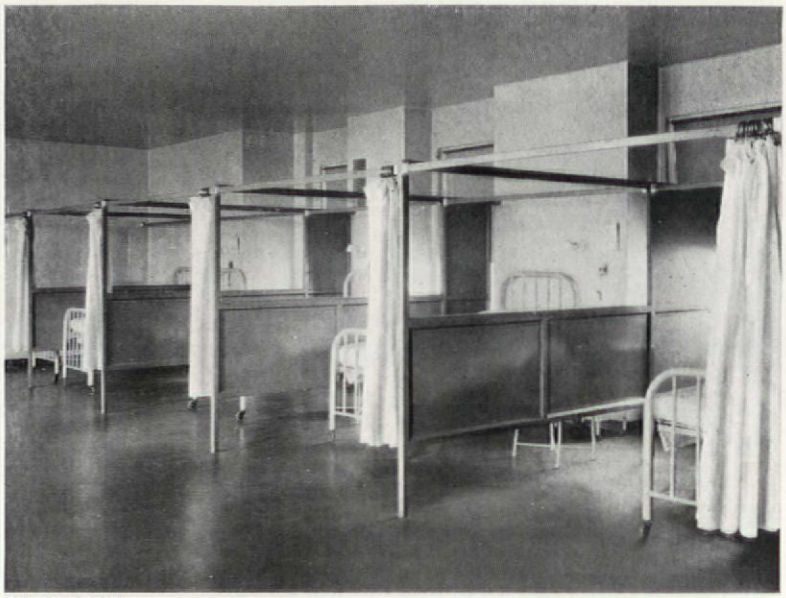
ROOF

PARLOR HOUSE TYPE
SILVER STREET



END ELEVATION

Each cubicle is amply provided with light from an individual window.



Mills Metal Cubicles

CUBICLES IN HOSPITALS

CORNELIUS S. LODER

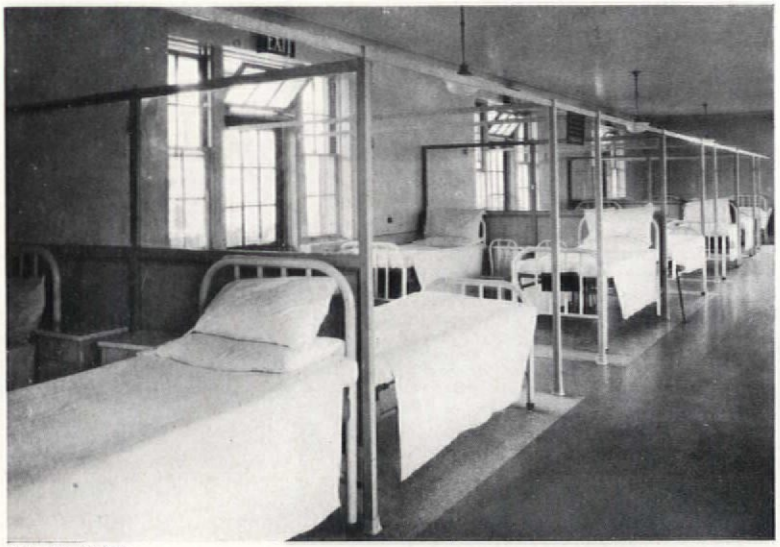
Cubicles are now in use in 80 per cent of our hospitals. Their installation can be accomplished without extensive cost.

When installed in old buildings they only slightly increase weight; they are fireproof and may reduce the fire insurance premium. On the other hand, in the planning of a ward for patients' beds, additional space would be required if cubicles were used. Thus, if a large open adult ward were to be constructed for cubicles, the floor area per cubicle bed would be increased from about 75 sq. ft. to about 105 sq. ft., and the number of beds would be reduced from about 45 to 35. This would increase the cost from about $500 to $650 a bed. The estimated cost, including installation, for eight cubicles is about $750 or about $95 a cubicle. However, the advantages offered by cubicle service are unique and in many cases indispensable.

The best type of cubicle has walls 7 ft. in height; the walls rest on legs of steel firmly fastened to the cement or other hard material floor. The space between the cubicle wall and the floor should be 12″ to 18″, preferably 16″, to allow for the convenient cleaning of the floor. The fourth side of the cubicle is usually open, and when privacy is desired, a curtain hanging on a rod can be drawn across the opening. The cubicle walls have been extended to the ceiling only in exceptional cases in order to keep out odor or noise. This additional height increases the cost.

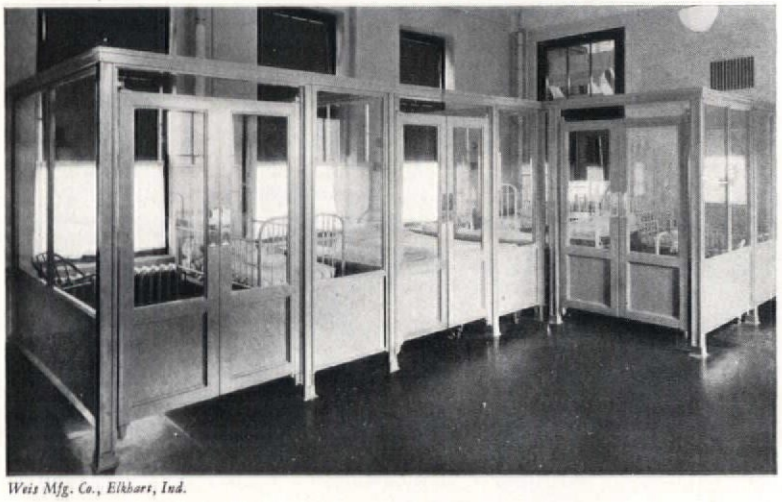
Cubicle walls are generally made of metal and the upper part, from the level of the patient's head, of glass. The wall length of an adult's cubicle is from 7 ft. to 12 ft., depending on the corridor space available. The width of the cubicle is 7 ft. to 10 ft. The size of a child's cubicle is 6 ft. by 5 ft. The glass panes in the upper part of the wall in a child's cubicle can be made smaller or possibly thicker in order to lessen the risk of breakage. In children's wards the use of wired glass is very appropriate.

Ventilation, heating and lighting of cubicles is important. Cubicles located in the center of a ward are not so well ventilated as those placed along the sides and opening into the center of the room. Each cubicle should have its own window; in the reconstruction of wards in old hospitals this is sometimes rather difficult to arrange. It is very seldom that patients in two different cubicles sharing one window agree upon the ventilation. A modern cubicle should also have its own radiator, if possible, and hot and cold running water. A cubicle can be furnished like a private room. Bright



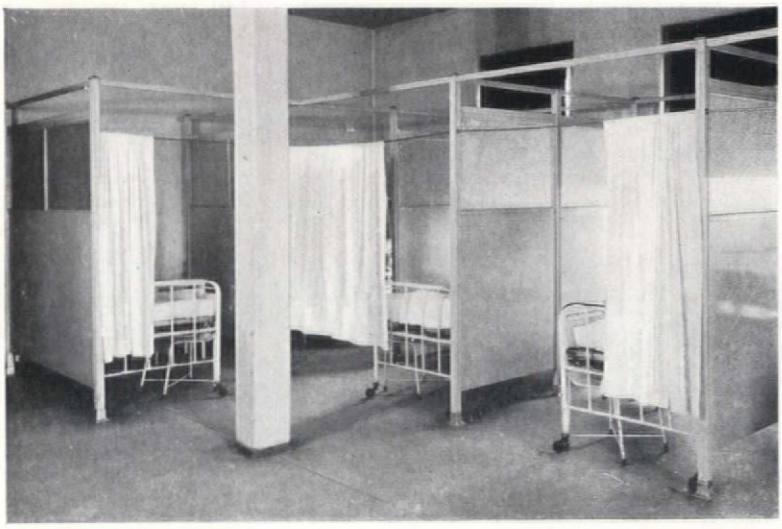
Four-bed cubicles in a large ward. Considerable privacy and isolation is secured without any loss of light.

Mills Metal Cubicles



These cubicles in the children's ward of a hospital in Boston have glass doors so that visitors need not enter the cubicles but can observe the patients from outside.

Weis Mfg. Co., Elkhart, Ind.

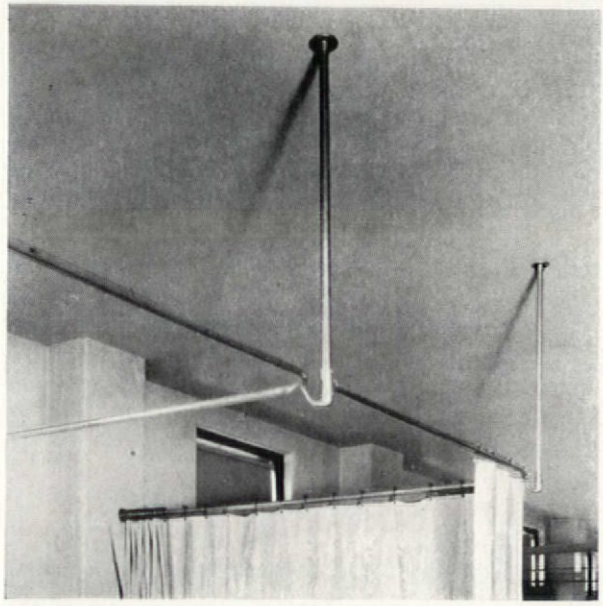


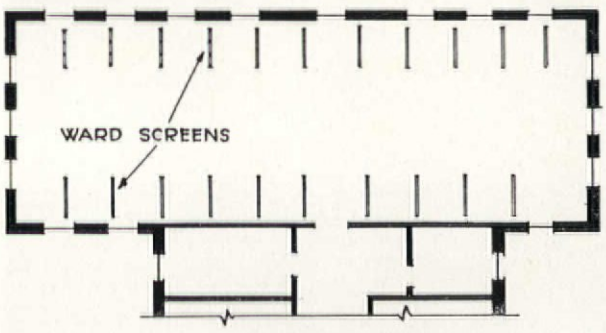
Hospital in Braddock, Pa. Cubicles have opaque glass in upper part of walls. Curtains hang on heavy wire.

Sanymetal Products Co.



N. L. Judd Co.





FRENCH HOSPITAL, NEW YORK
CROW, LEWIS AND WICK, ARCHITECTS

and cheerful colors can be chosen for floor-covering, walls and furniture.

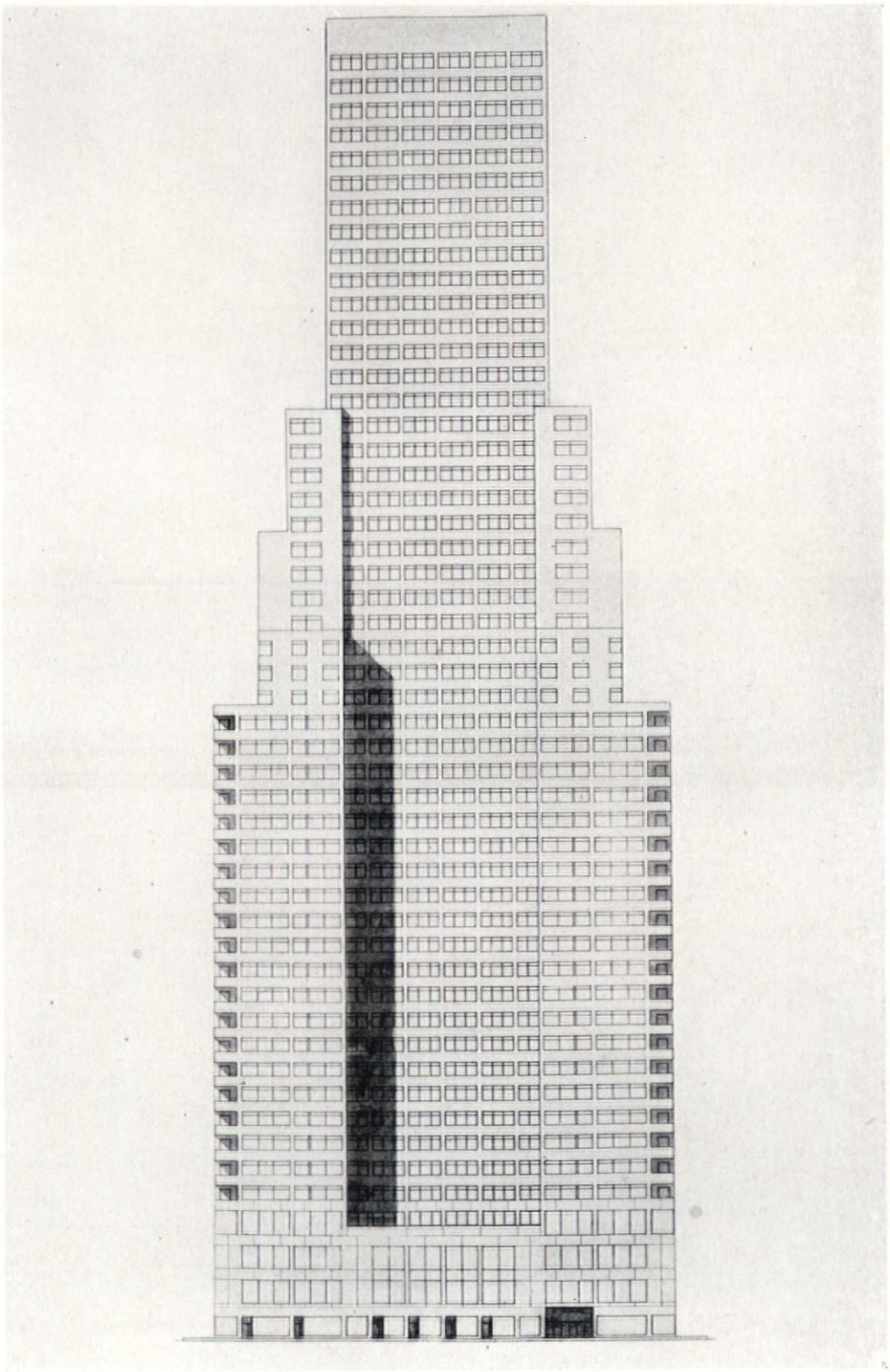
For the upper part of the cubicle walls either ordinary glass or ultra-violet ray glass permitting the transmission indoors of the invisible and beneficial rays of the sun can be used, especially in obstetrical rooms where complete privacy is desired. On the flat hospital roof cubicles can be built entirely of ultra-violet glass; they can also be installed on piazzas and piazza roofs or on the grounds.

The cubicle offers sociability. A small glass door can be arranged in the window pane in the upper part of the wall near the patient's head and opened at certain times, permitting the patients to converse with each other. When so desired these panes can be closed. This is a desirable arrangement in children's wards.

Another advantage of the cubicle system is in controlling cross-infection. This fact is of greatest importance in children's hospitals.

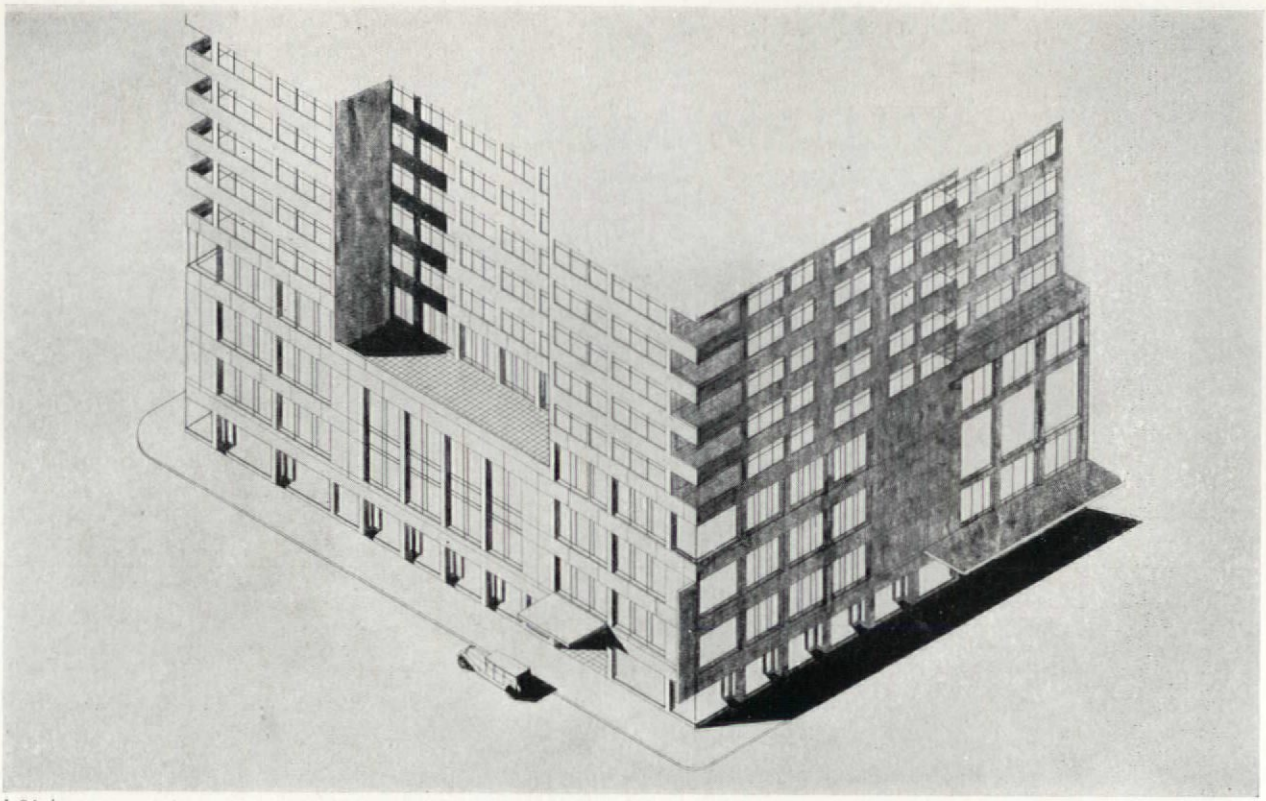
For hospitals which, at the present moment, can afford only the very smallest expense for the building of cubicles, there is the possibility of installing the cubicle frames, and in place of walls curtains of various materials on non-stretchable wire or rod can be substituted temporarily.

DESIGNS
BY
WILLIAM MUSCHENHEIM
NEW YORK

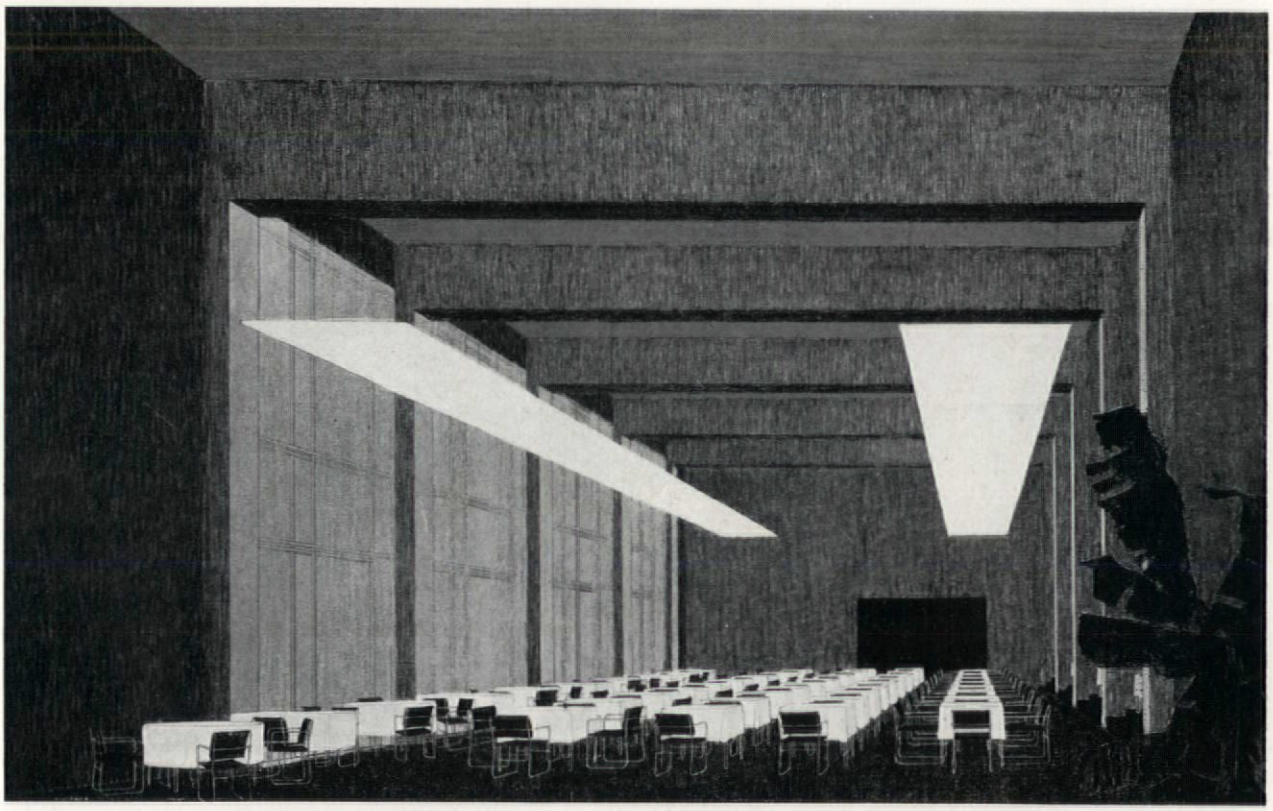


APARTMENT
HOTEL
NEW YORK CITY

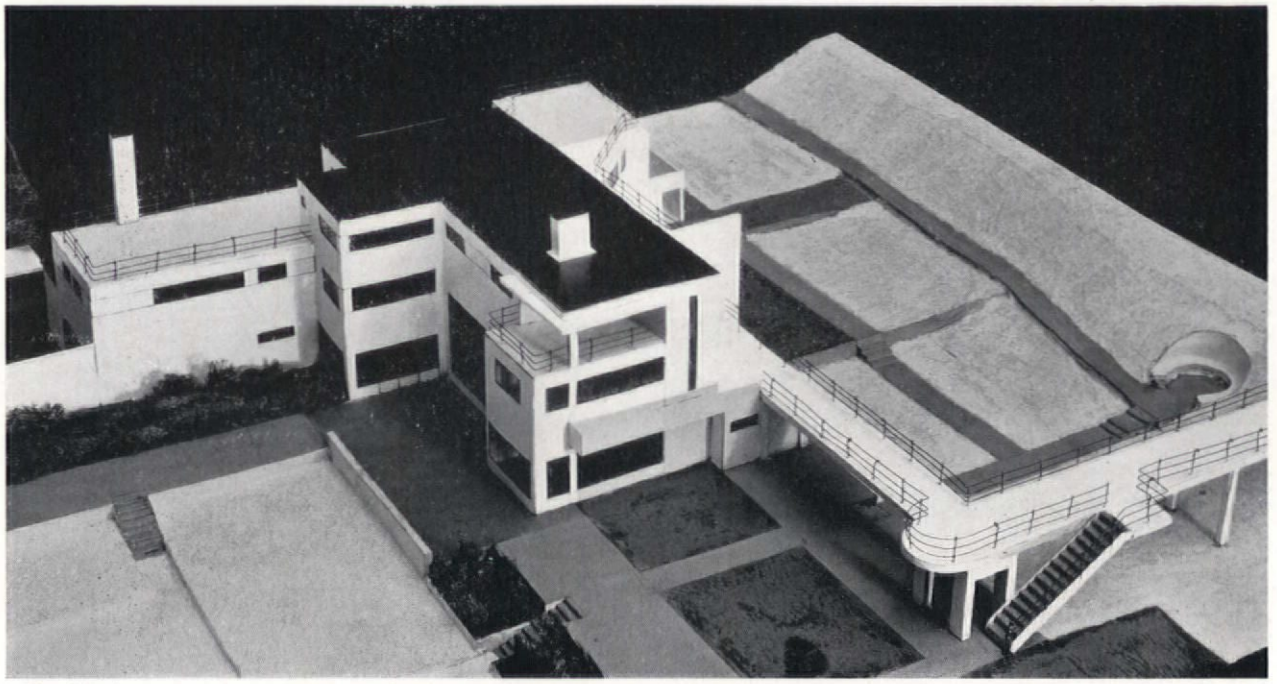
J. Scherb



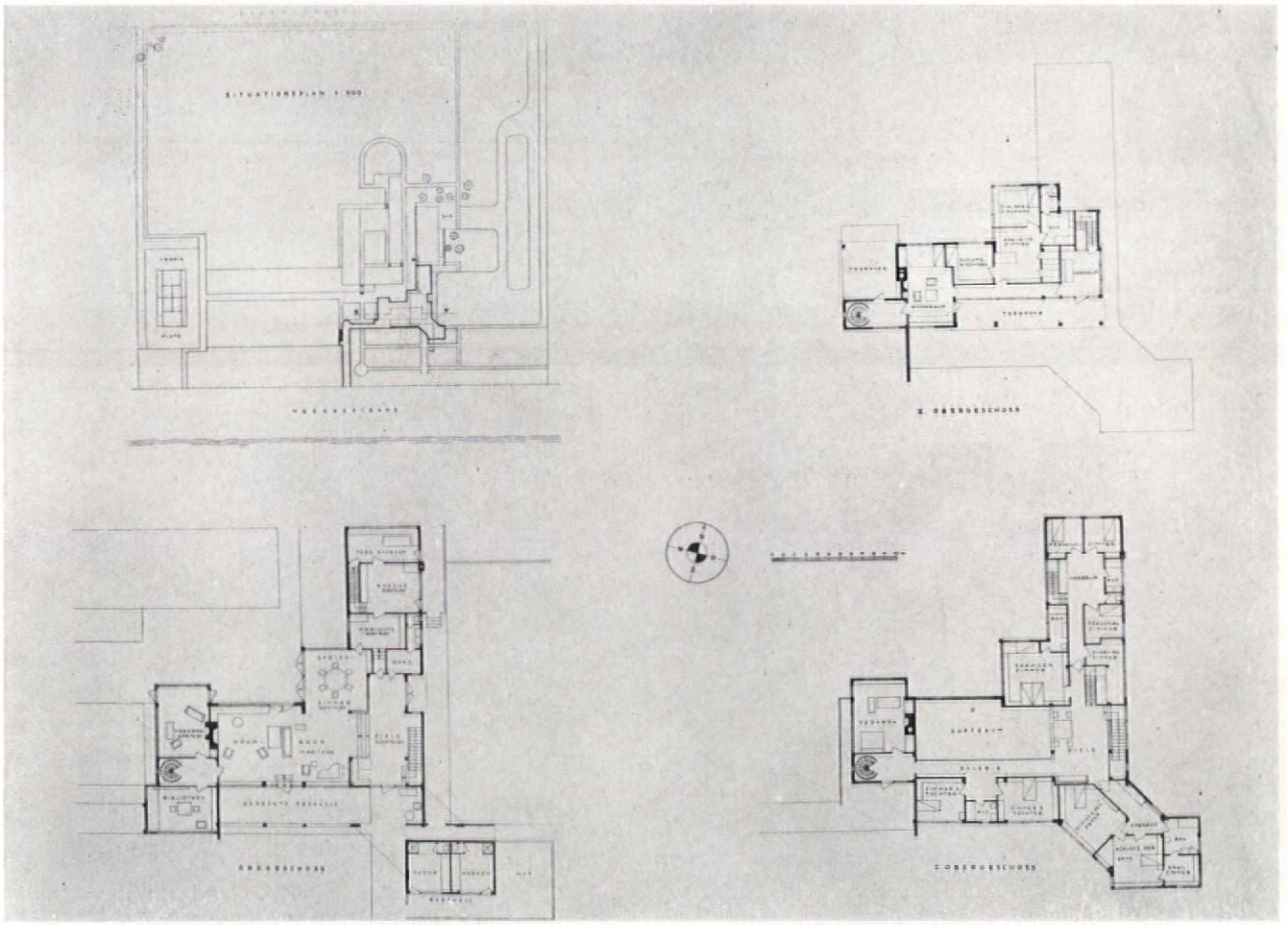
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APARTMENT HOTEL, NEW YORK CITY
WILLIAM MUSCHENHEIM, ARCHITECT
ISOMETRIC VIEW AND DINING ROOM

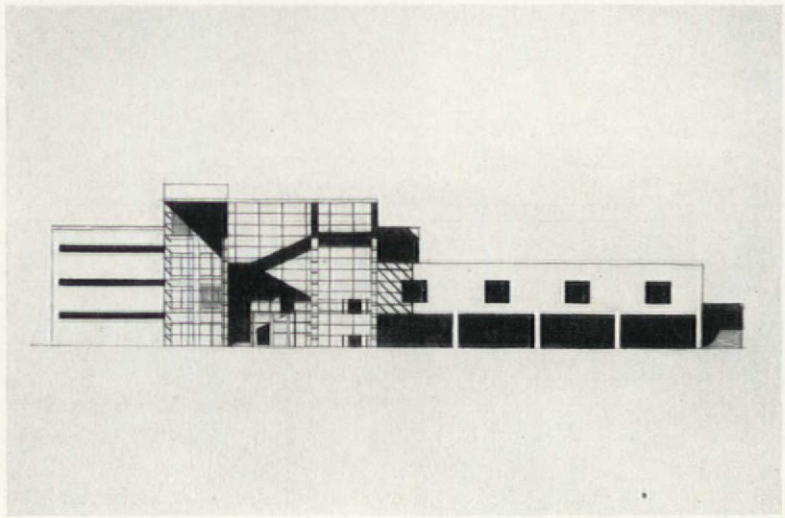


Nyholm and Lincoln

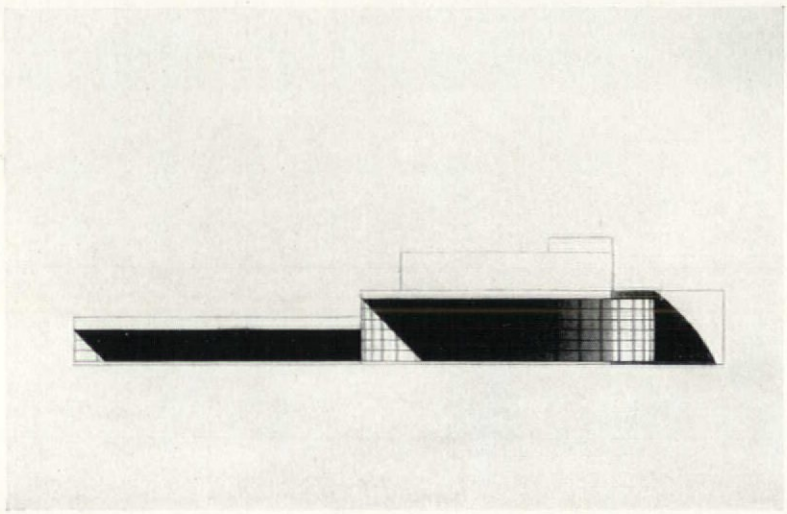


J. Scherb

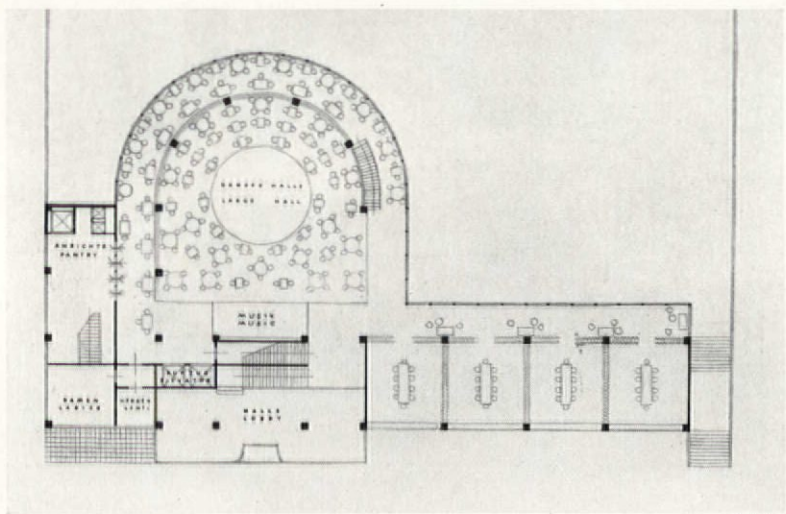
SUMMER RESIDENCE AT THE DUNES
LONG ISLAND, N.Y.
WILLIAM MUSCHENHEIM, ARCHITECT



NORTH ELEVATION

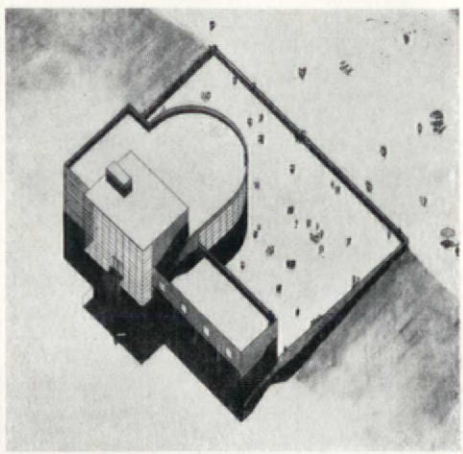


SOUTH ELEVATION

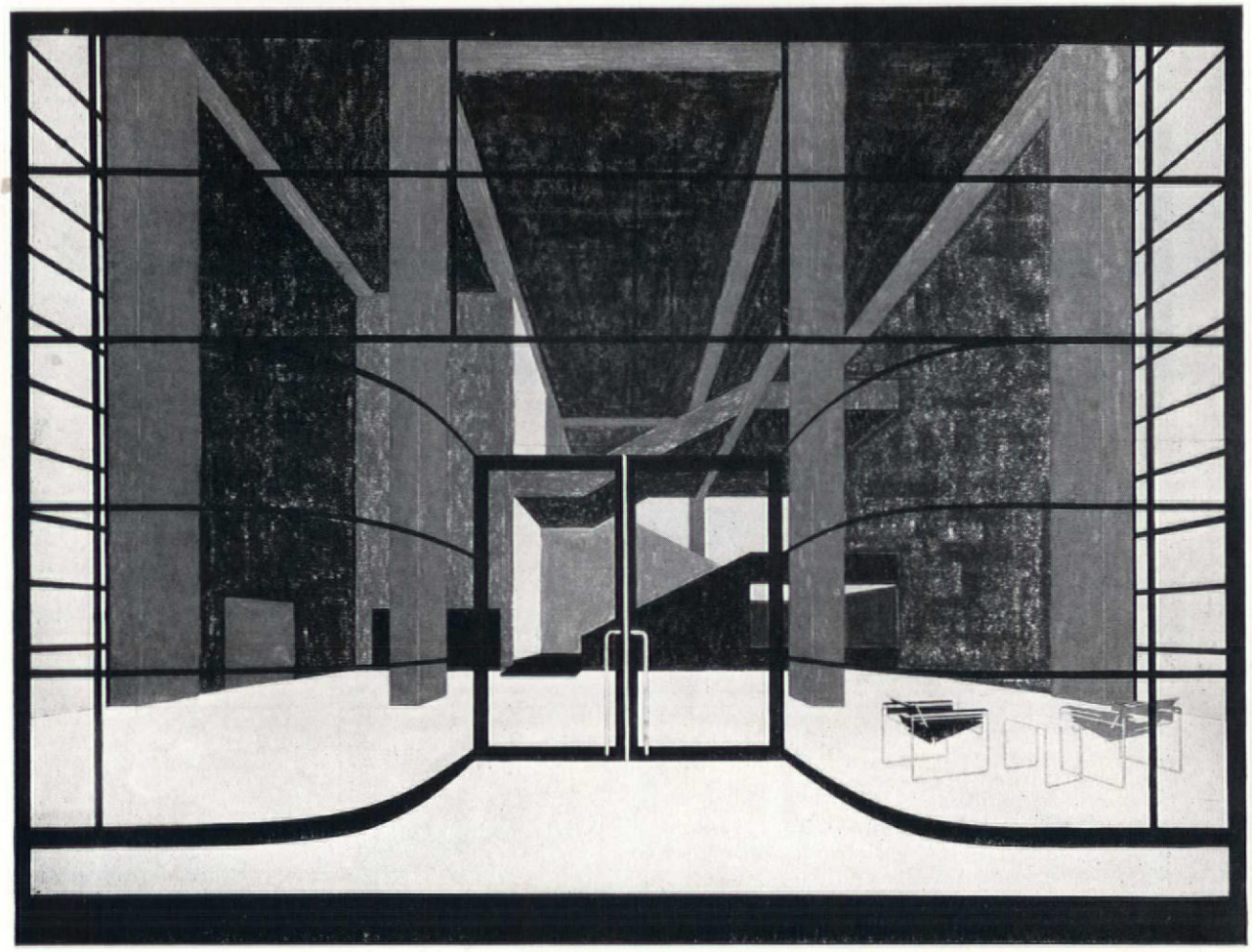


J. Scherb

MAIN FLOOR

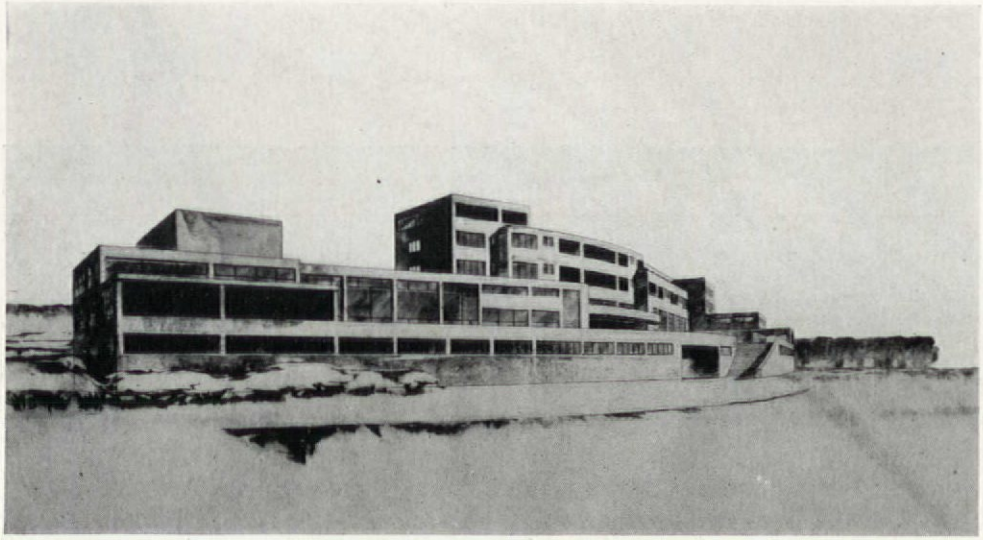


DANCE PAVILION AT THE SEA
LONG ISLAND, N.Y.
WILLIAM MUSCHENHEIM
ARCHITECT

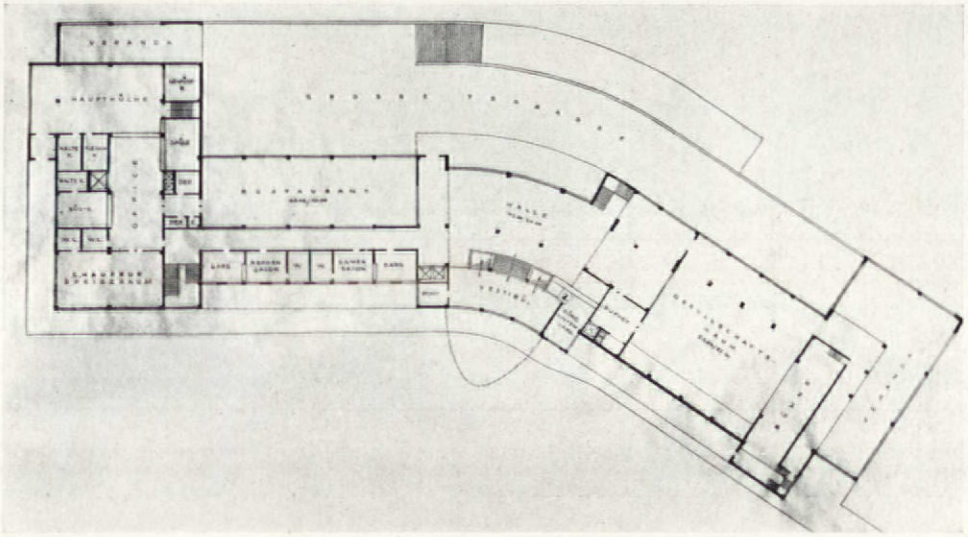


DANCE PAVILION AT THE SEA
MAIN ENTRANCE

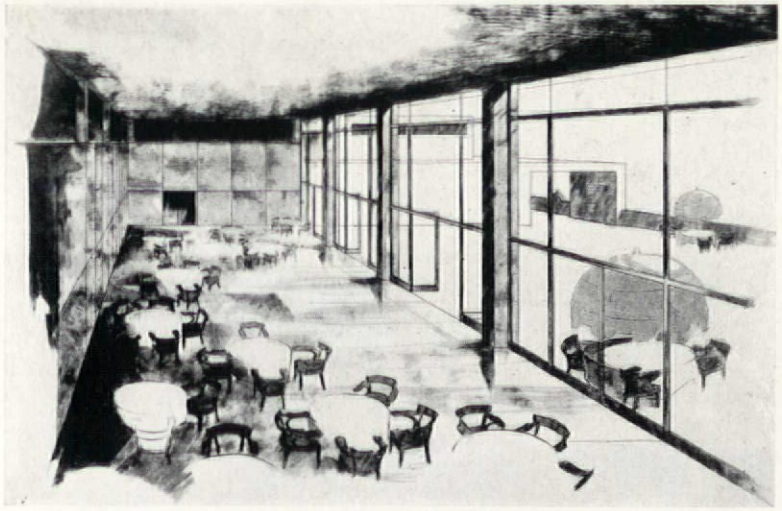
WILLIAM MUSCHENHEIM, ARCHITECT



SOUTH ELEVATION



MAIN FLOOR



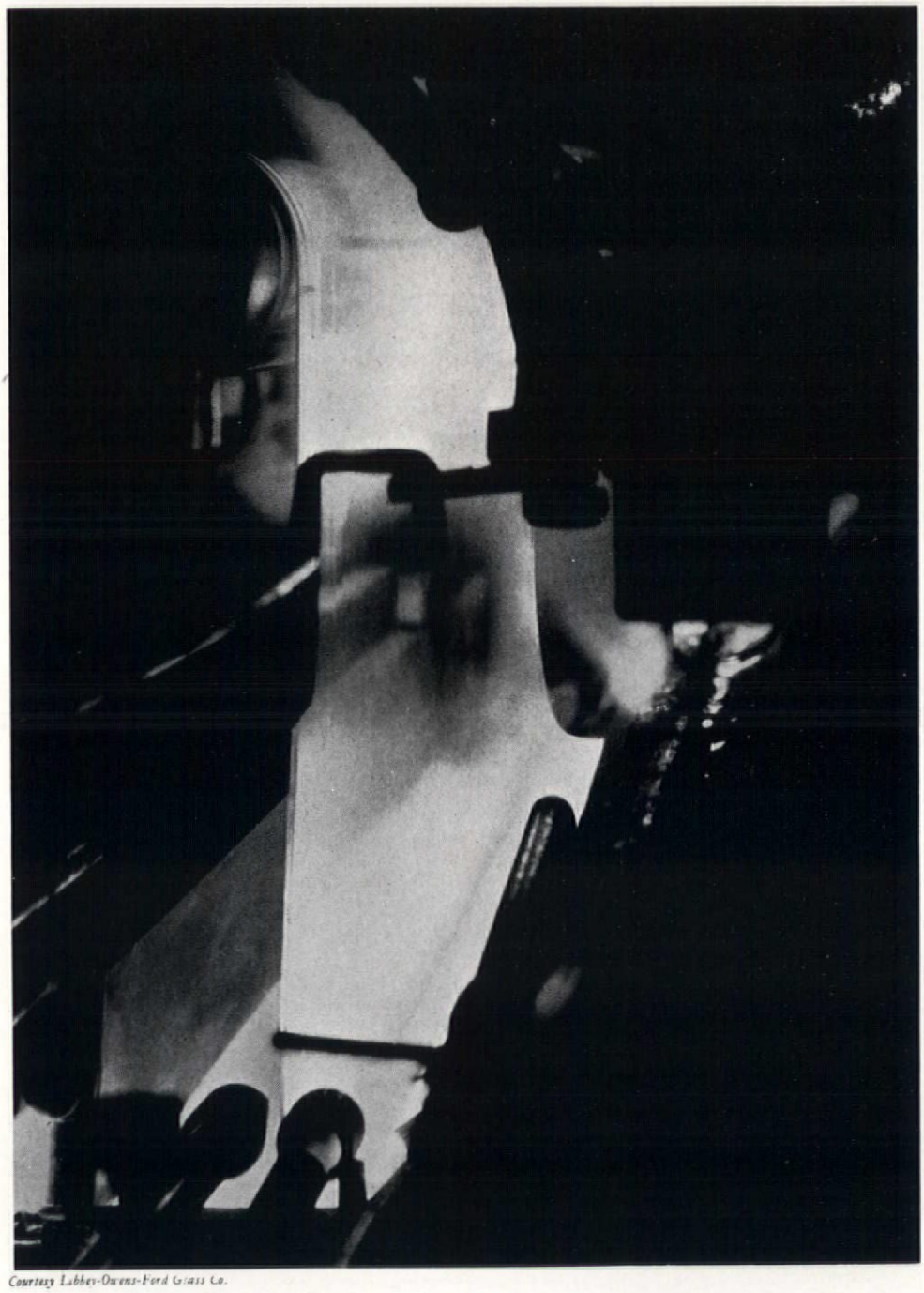
DINING ROOM

CLUB HOUSE, LONG ISLAND, N. Y.
WILLIAM MUSCHENHEIM
ARCHITECT

GLASS

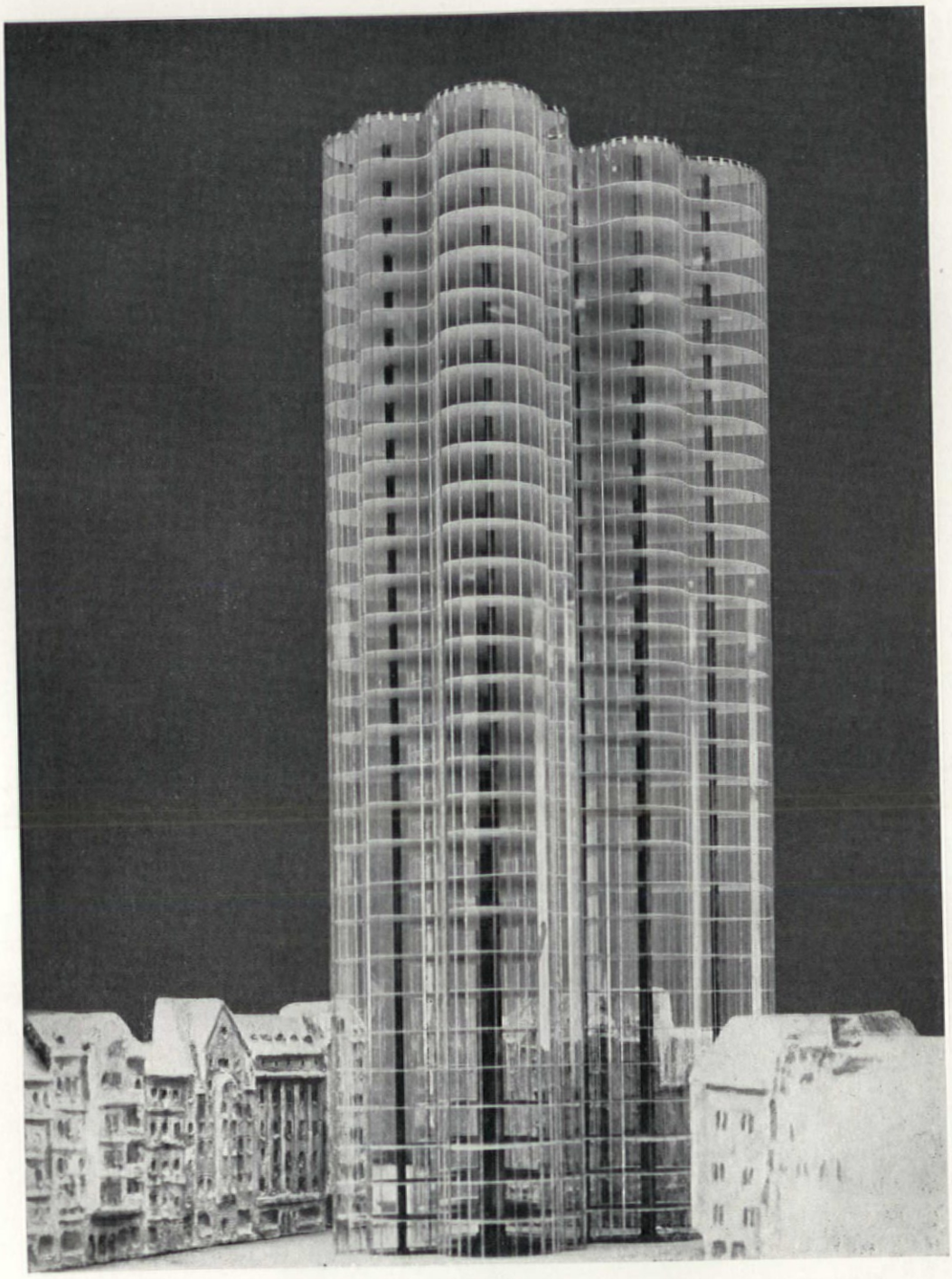
BY

K. LÖNBERG-HOLM



Courtesy Libbey-Owens-Ford Glass Co.

MANUFACTURE OF SHEET GLASS



MODEL FOR OFFICE BUILDING, MIES VAN DER ROHE, ARCHITECT

PHYSICAL PROPERTIES OF GLASS

PERMEABILITY TO VISIBLE RADIATION

VOLUME OF TRANSMISSION

The volume of transmission varies with the following factors:

1. *Chemical properties of the glass*

The volume of light transmitted by glass is in direct proportion to the purity of its composition. No ordinary glass can transmit more than about 91% of the incident light. When a light ray strikes a plate glass vertically about 4% is reflected from its upper surface and about 3 or 4% from its lower surface; the remaining light being transmitted and absorbed. The amount of reflected light varies with the optical property of the glass known as the *refractive index* (the number which expresses the ratio of the sine of the angle of incidence to the sine of the angle of refraction) but this variation is a minor factor in the consideration of ordinary clear glasses, because of the small range of the refractive index. (From 1.45 to 1.96.)

2. *Nature and distribution of incident light flux.*

3. *Shape and reflection factor of the background or enclosure around the lightsource.*

4. *Angle of incidence.*

The percentage of light reflected increases with the angle of incidence (the angle between the light ray and a line perpendicular to the surface). (Fig. 1.) The percentage of light reflected increases very gradually up to about 45 degrees incidence. It then increases rapidly, becoming 100% at 90 degrees incidence. This is a very considerably loss in daylighting equipment as the transmission factor of even plain glass is less for light reaching it from many angles than for a perpendicular beam of light. Laboratory tests (1)* on daylight in relation to windows showed that filling a window opening with clear plate glass resulted in lowering the minimum illumination at the rear of the room by 42%, and it was concluded that this possibly was due to the amount of artificial skylight reflected back from the glass.

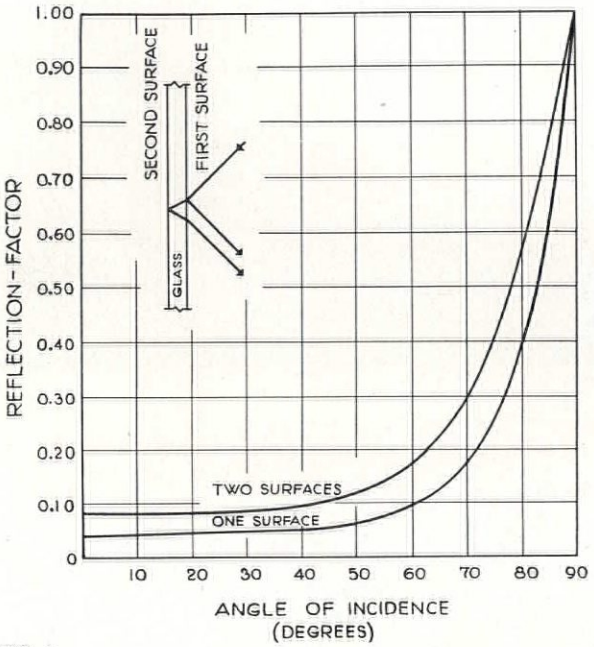


FIG. 1
PERCENTAGE OF INCIDENT LIGHT REFLECTED BY ONE AND TWO SURFACES OF CLEAR PLANE GLASS FOR VARIOUS ANGLES OF INCIDENCE (2).

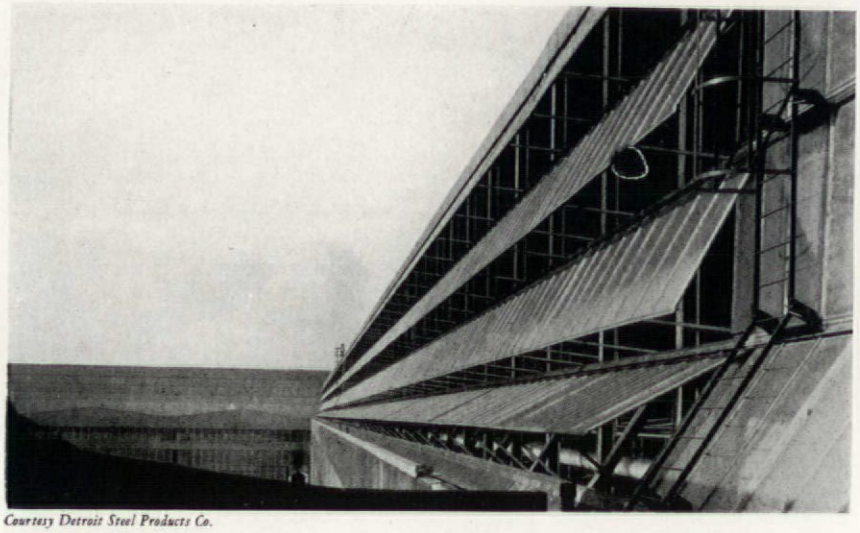
5. *Facial characteristics*

Inasmuch as the transmission factor of a glass which is rough on one side (sandblasted, pebbled, ribbed or modelled) is appreciably less when the smooth side is toward the lightsource than when the rough side is, the transmission factor is given for both conditions in Table 1. Other considerations being equal these glasses should be used with their rough side toward the lightsource.

Specimen of Glass	Side Toward Lightsource	Transmission Factor	
		Perpendicular Beam	Hemispherical Illumination
Plane	.....	0.90	0.80
Sandblasted	Rough	.78	.70
Sandblasted	Smooth	.74	.70
Pebbled	Rough	.85	.75
Pebbled	Smooth	.79	.75
Coarse Ribbed	Rough	.77	.62
Coarse Ribbed	Smooth	.52	.62
Fine Ribbed	Rough	.86	.79
Fine Ribbed	Smooth	.79	.79
Wavy	Rough	.88	.82
Wavy	Smooth	.86	.82

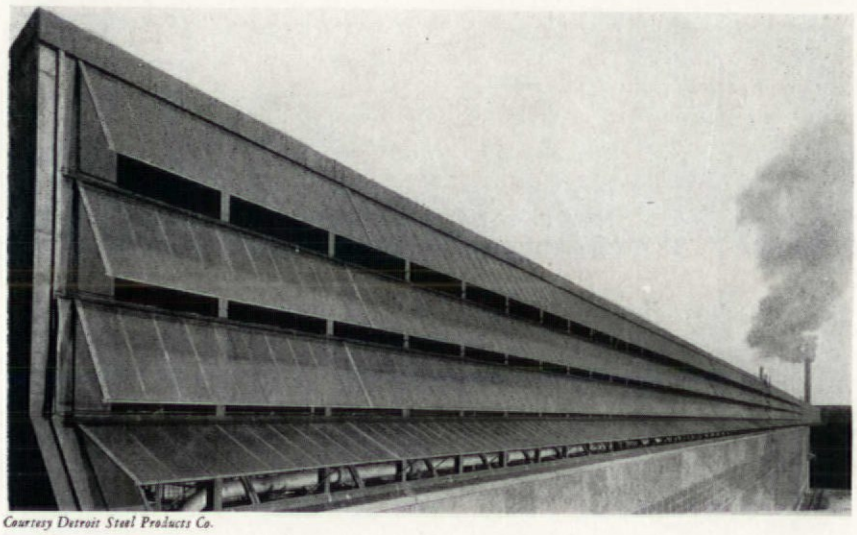
Table 1.
Transmission factors of typical glasses for direct and diffused light. (2).

* Figures in parentheses throughout the text indicate references given at end of each chapter.



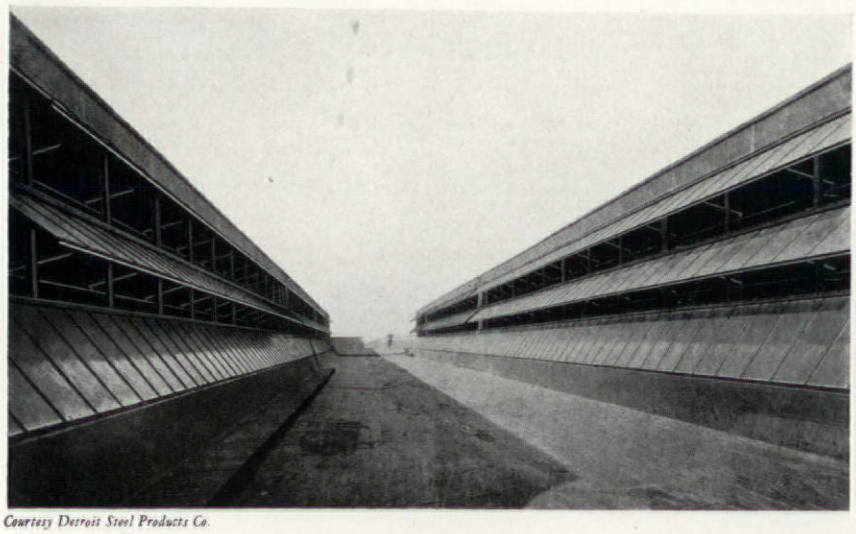
Courtesy Detroit Steel Products Co.

MONITOR, FORD MOTOR CO.
DEARBORN



Courtesy Detroit Steel Products Co.

MONITOR, FORD MOTOR CO.
DEARBORN



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MONITORS, LINK BELT CO.
PHILADELPHIA

Material	Light Reflected			Light Transmitted			
	In Concentrated Beam	In Spread Beam	Diffused in all Directions	In Concentrated Beam	In Spread Beam	Diffused in all Directions	Light Absorbed
Crystal Glass							
Clear	8–10*	....	.....	80–85	.....	.....	5–10
Frosted or Pebbled (A)	4– 5	5–10	.....	.....	70–85	.....	5–15
Frosted or Pebbled (B)	.....	8–12	.....	.....	72–87	.....	5–15
White Glass							
Very Light Density (A)	4– 5*	....	10–20	5–20	.....	50–55	8–12
Very Light Density (B)	.....	3– 4	10–20	.....	5–20	50–55	10–15
Heavy Density	4– 5*	....	40–70	.....	.....	10–45	10–20
Mirrored Glass	82–88	....	.....	.....	.....	.....	12–18

(A) Smooth side toward lightsource.
(B) Roughed on side toward lightsource.
* For angles up to 45 deg.; for angles greater than 45 deg. this value rises considerably.

Table 2.

Characteristics of materials.
(Courtesy: National Lamp Works, Nela Park, Cleveland).

6. *Surface dirt*

Dirt accumulations reduce the volume of light available for distribution. Measurements of intensities of illumination before and after cleaning the glass area in many cases show an increase as much as 5 to 10 times, and it is not uncommon to increase the illumination intensity in some parts of the interior from an average of one foot-candle with dirty glass to as high as 15 foot-candles (2).

FACTORS INVOLVED IN THE ACCUMULATION OF DIRT ON WINDOW GLASS

(*a*) *Atmospheric conditions*

Particularly in factory districts glass rapidly accumulates a film of dirt.

(*b*) *Time and place of exposure*

Investigations of dirt as related to daylighting in industrial buildings (3) have shown that the accumulation of dirt on a window over a given length of time is about 75% on the inside and 25% on the outside. Probably this is due to occasional rains which wash off some of the outside dirt. This point is particularly significant with relation to sloping windows or skylights, which are more difficult to wash on the inside than vertical windows.

(*c*) *Angle at which the glass is placed*

Sloping surfaces collect dirt more rapidly than vertical surfaces and these are therefore more efficient light-transmitting media over a period of time.

(*d*) *Facial characteristics*

The facial characteristics of the glass seem to have very little to do with the amount of dirt collected. While it was found (3) that various types of glass collected dirt in about the same quantities, some of them retained it more tenaciously when cleaning was attempted. In selecting a window glass this point should be carefully considered as the cleaning methods and perhaps the actual cost may depend upon the ease with which the accumulated grime may be removed.

Four types of glass are commonly used in industrial buildings (3):

1. *Clear Sheet*—transmission factor 82% when clean;
2. *Vertically Ribbed*—transmission factor 72% when clean;
3. *Horizontally Ribbed*—transmission factor 72% when clean;
4. *Rough or Hammered Wire*—transmission factor 78% when clean.

(In all cases it is assumed that the light is unobstructed and diffused.)

The report (3) concludes that with the collection of six months' dirt there is little advantage in any of these glasses over any other. Clear glass and rough or hammered glass are much easier to clean, however, than either vertically or horizontally ribbed glass. Under certain conditions, it is possible to

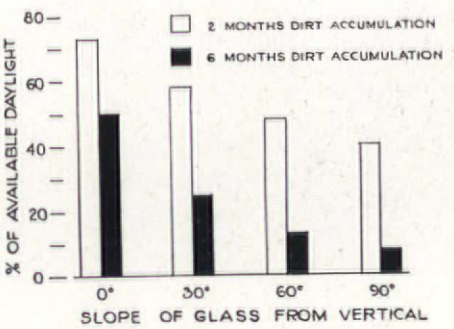
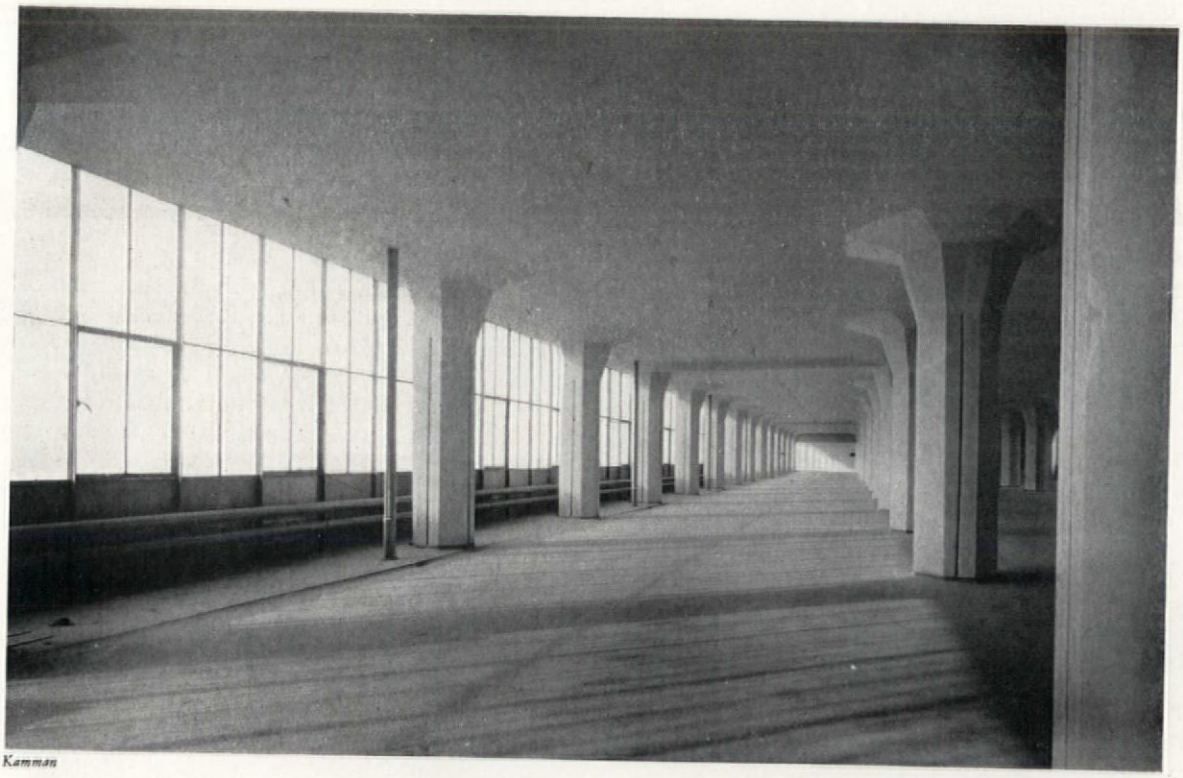


FIG. 2
RELATION OF DIRT ACCUMULATION TO SLOPE OF GLASS (3).



Courtesy The W. Bayley Co.

MONITOR, HALL PRINTING CO., CHICAGO



Kamman

VAN NELLE TOBACCO FACTORY, ROTTERDAM
J. A. BRINKMAN AND L. C. VAN DER VLUGT, ARCHITECTS

increase the minimum daylighting by using rough glass with the rough side in, this being especially true where the windows are somewhat obstructed on the outside by adjacent buildings. On the other hand, for practical purposes the rough side should be out since it is desirable to wash the inside oftener and the smooth glass is easier to wash than the rough.

If the windows are to be washed once a year only, as is the case in some industries, this should *not* be "spring-cleaning" but should take place in the fall so that the glass may be as efficient as possible when the need is greatest.

All daylighting values for industrial buildings should be figured on the basis of six months' dirt accumulation. (3)

CONTROL OF THE LIGHT FLUX

REFRACTION

When a beam of light enters glass obliquely from air the direction of its path is abruptly changed. The amount of this *refraction* depends upon the ratio of the velocities of the light as it passes through the two media. Advantage is taken of this property of glass to alter and to control the course of light rays. It is also possible to reflect all the light by means of glass prisms as shown in Fig. 3. After a ray of light enters glass it is totally reflected at a bounding plane if it is incident upon this plane at a sufficiently large angle. Prisms and lenses have an extensive use in lighting equipment, in refracting and breaking up light. Many designs of glass having prismatic forms are on the market. When properly designed and installed an appreciable control of natural light entering interiors is obtained. These glasses are usually employed for the purpose of gathering oblique light from the sky and sending it in a general horizontal direction into the parts of the room at some distance from the lightsource. Unless kept quite clean prismatic glass loses its value.

DIFFUSION

Diffusion (multiple refraction) of the light flux without glare can be obtained by:

(*a*) *Varying the chemical composition of the glass*

Highly diffusing glass such as opal, opalescent or "milk" glass diffuses about as much light outward as it does inward. (Fig. 4, 5.) If it is perfectly diffusing it reflects *more* light outward. If one holds a piece of this highly diffusing glass in the path of light rays, it is readily seen that the glass is fully as bright when viewed in the direction of the light rays as when viewed in a direction toward the lightsource. This means that about as much light is diffusely reflected outward (toward the lightsource) as is

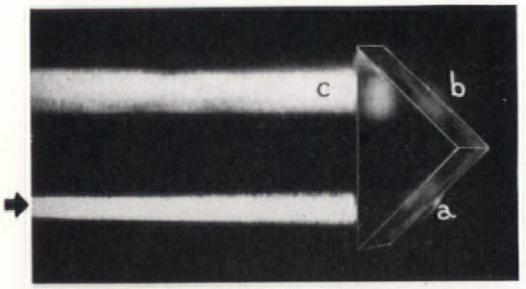
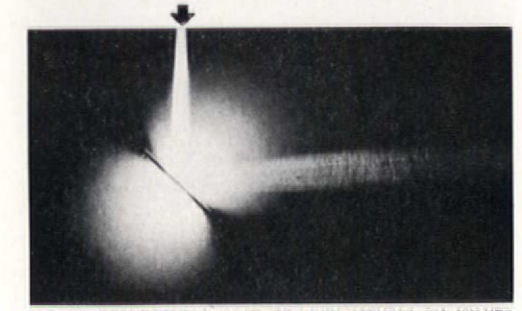
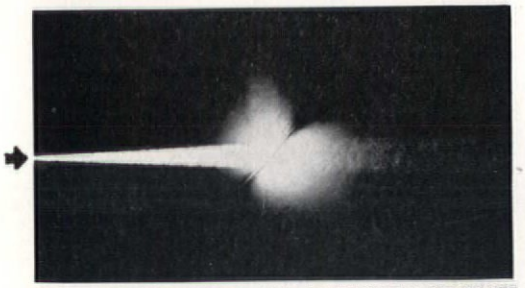
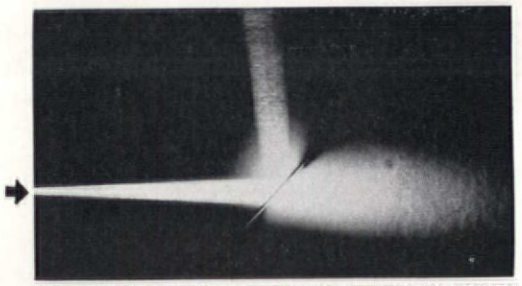
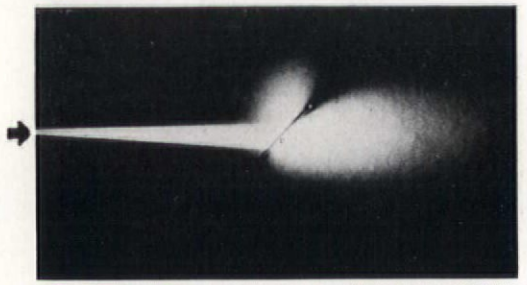


FIG. 3. TOTAL REFLECTION BY PRISM

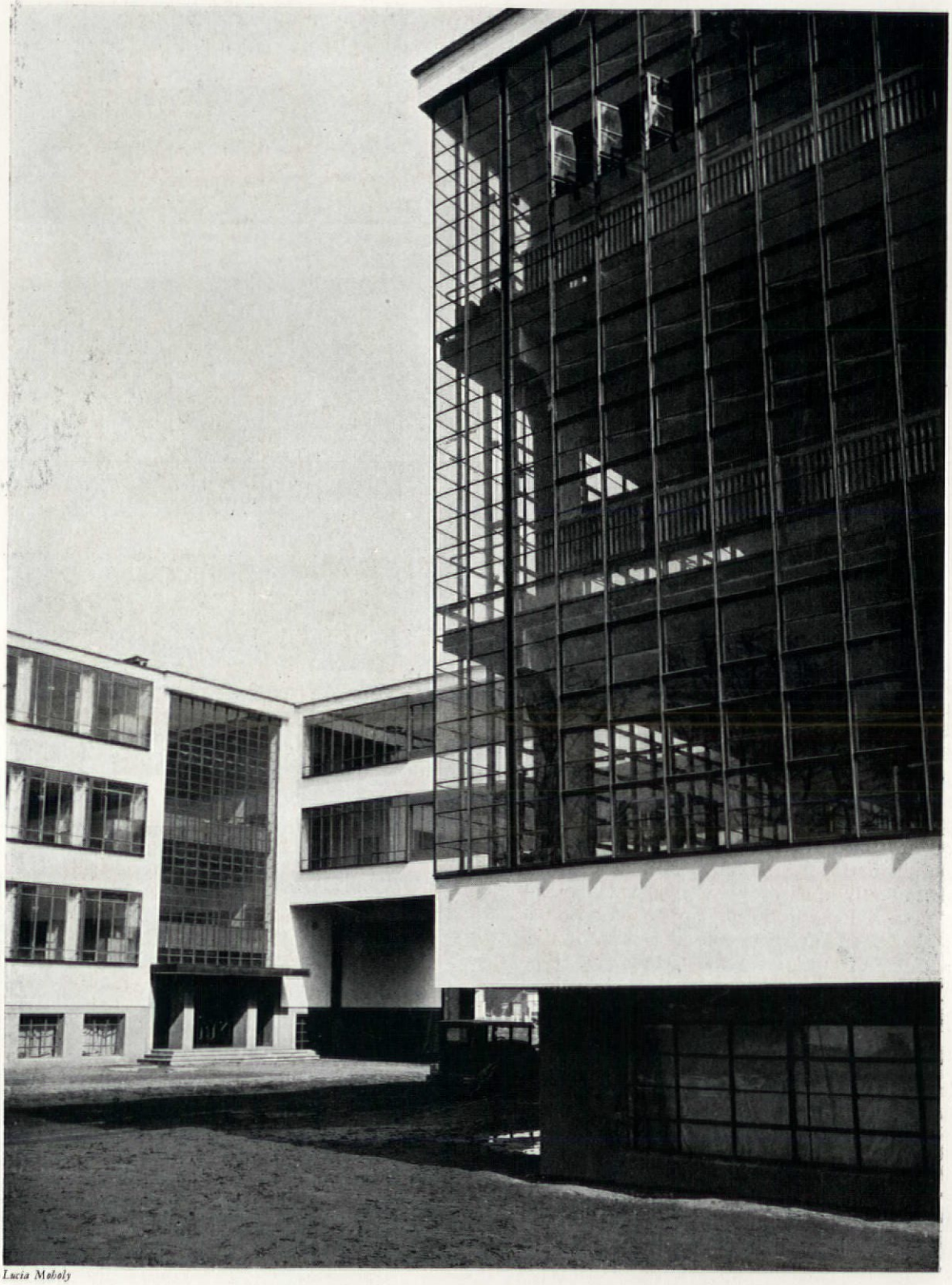

FIG. 4. REFLECTION AND TRANSMISSION BY WHITE OR MILK GLASS


FIG. 5. TRANSMISSION AND REFLECTION OF WHITE GLASS. VERY LIGHT SAMPLE


FIG. 6. REFLECTION AND TRANSMISSION BY ETCHED GLASS. SMOOTH SIDE TOWARD BEAM


FIG. 7. REFLECTION AND TRANSMISSION BY ETCHED GLASS. FROSTED SIDE TOWARD BEAM

Courtesy National Lamp Works, Nela Park, Cleveland



Lucia Moholy

BAUHAUS SCHOOL, DESSAU, WORKSHOPS, WALTER GROPIUS, ARCHITECT

diffusely transmitted inward. This is true to some extent, but not to the same degree, of sand-blasted or so-called "frosted" glass. (Fig. 6, 7.)

Type	Thickness In.	Diffusion	% Reflection	% Transmission	% Absorption
Clear.....	.079–.157	None	6– 8	90–92	2– 4
Frosted Clear	.071–.130	Little	6–19	60–91	3–14
Ornamental.	.118–.177	Little	6–20	70–91	3–14
Opalescent..	.071–.098	Little	13–28	59–84	3–13
Solid Opal..	.051–.157	Good	52–74	10–38	6–24
Flashed Opal	.071–.122	Good	29–52	36–66	3–10
Alabaster...	.315–.630	Good	45–67	17–36	14–33

Table 3.

Diffusion, reflection, transmission and absorption factors for various glass. (4).

A loss of energy is connected with this diffusion. This light absorption is a function of the thickness and the chemical composition of the glass.

(*b*) *Surface patterns*

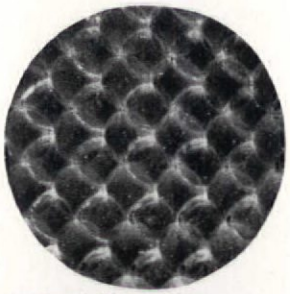
A moulded surface scatters the light flux. The chief functions of a surface pattern are to break up the direct rays from the lightsource and to redirect the light passed through.

Diffusion for the purpose of obstructing vision can be obtained by the use of rough, hammered or pebbled glass that spreads the light in an irregular manner.

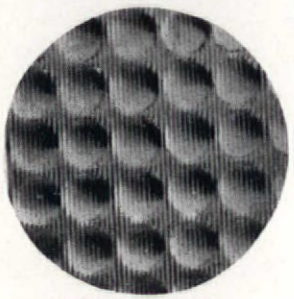
A great number of glasses are on the market with surface patterns designed for the highest transmission of light, for diffusion that reduces glare to a minimum and obstructs vision, and for controlled deflection.

The volume of transmission depends to a certain degree on the character of the flat surface of these glasses. A rolled surface is more or less rough. For full efficiency it should be ground and polished. The surface patterns should be shallow without grooves and sharp angles, for ease of cleaning. Ribbed glass spreads the light in a direction perpendicular to the ribs. Glasses with prismatic patterns or patterns composed of convex lenses spread the light equally in all directions.

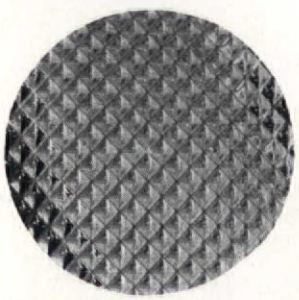
Laboratory tests on transmission of light through window glass (5) have proven the possibility of increasing the illumination on a horizontal plane in the back of a room by employing horizontally ribbed glasses. But it is generally found objectionable to face windows glazed in this manner as the contrast between the window and the surroundings is too extreme, especially where these windows face direct sunlight. By employing a glass which will completely break up the direct rays of the sun, the illumination, though of a lower intensity, may be more efficiently utilized.



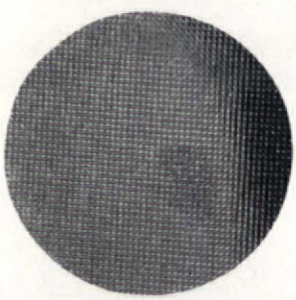
Manufacturer's Glass Co., Chicago



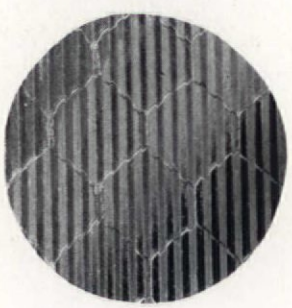
Manufacturer's Glass Co., Chicago



Mississippi Glass Co.

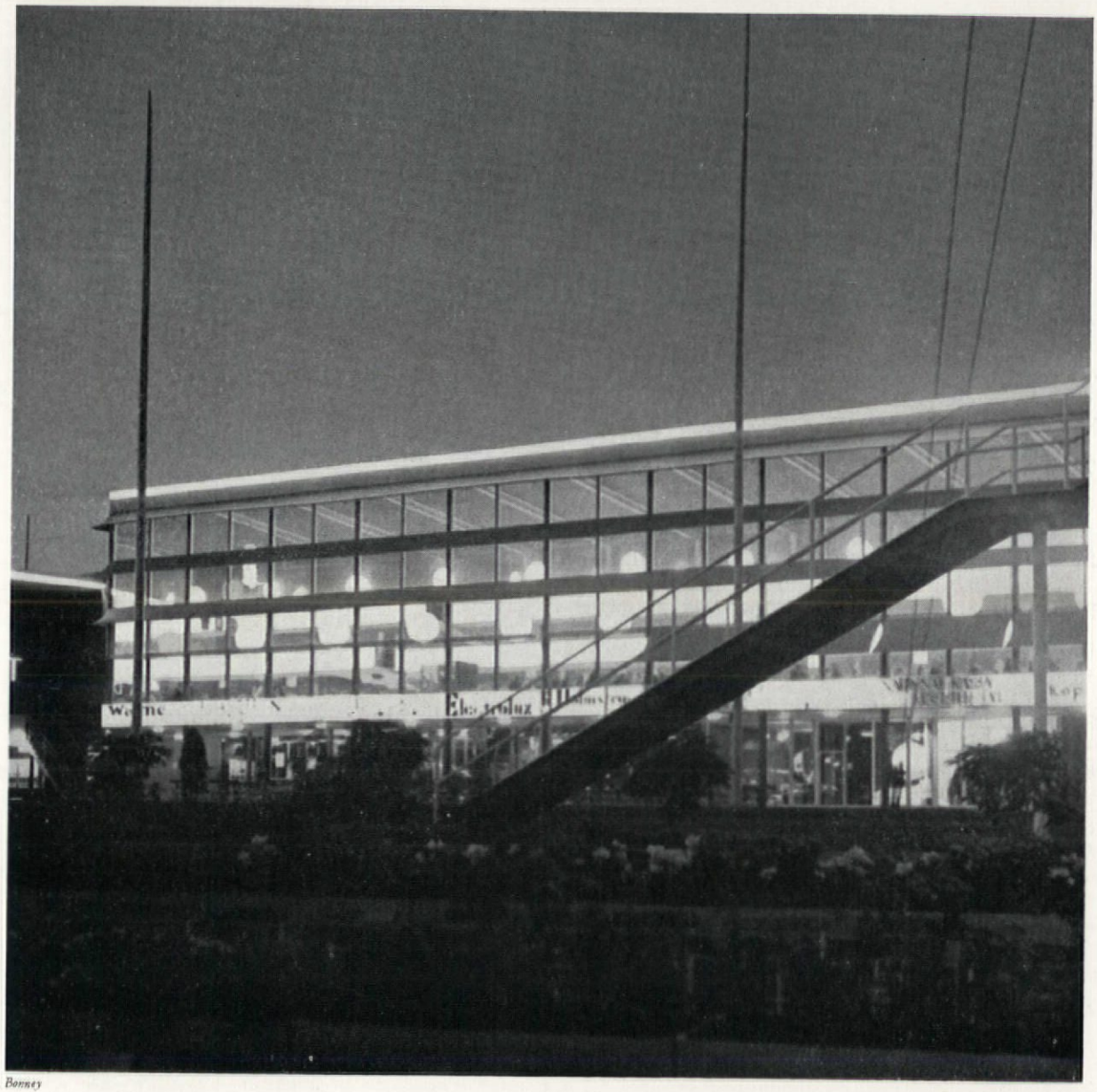


Mississippi Glass Co.



Mississippi Glass Co.

SURFACE PATTERNS FOR DIFFUSION AND CONTROLLED DEFLECTION



Bonney

RESTAURANT, STOCKHOLM EXPOSITION, E. C. ASPLUND, ARCHITECT

The authors conclude that the large number of variations which are encountered in natural lighting problems must all be taken into consideration when selecting the glass which will give the best average results, and that upon the whole, glass of the type with a surface pattern that gives a uniform diffusion of sunlight appears to be most satisfactory throughout.

MIRRORS

Similar to the reflection characteristics of polished metal are those of mirrored glass. Figs. 8 and 9 show the path of a ray of light striking the surface of a commercial type of mirror with silvering on the back of the glass. A small part of the light is at once reflected by the polished surface of the glass without passing through to the silvered backing; the remainder passes through the glass to the silver, from which it is reflected through the glass again and out along a line parallel to the ray reflected from the glass surface. The fact that most of the light has to pass through the glass both to and from the reflecting surface makes the silvered mirror a less efficient reflecting surface than the polished silver itself. The loss in the glass depends, of course, on the quality of the glass. The deterioration of a polished metal reflecting surface in service is, however, a factor which often more than offsets its higher initial efficiency.

Special laminated glasses are on the market which will act as a mirror when viewed from the side of the lightsource, but will, to a certain degree, be transparent when viewed toward the lightsource. A fine metallic screen is placed between the two pieces of glass. These glasses are extensively used in speakeasies.

ABSORPTION OF LIGHT

Light absorption can be controlled by varying the chemical composition and the thickness of the glass. By coloring the glass the absorption can be limited to certain ranges of the spectrum. The transmission factor of colored glasses is to a certain extent a function of temperature.

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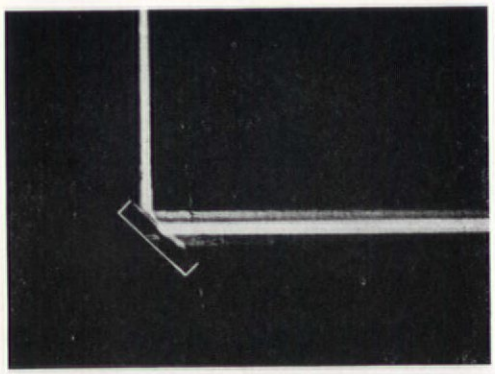


FIG. 8. REFLECTION FROM MIRROR

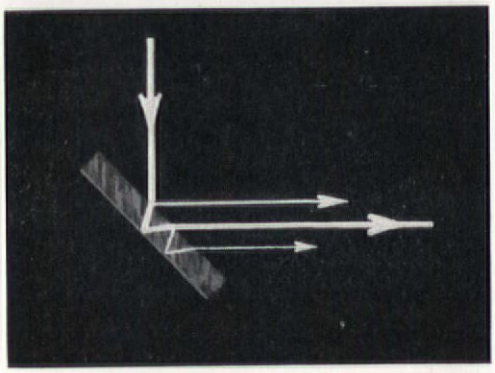


FIG. 9. DIAGRAM OF REFLECTION FROM MIRROR

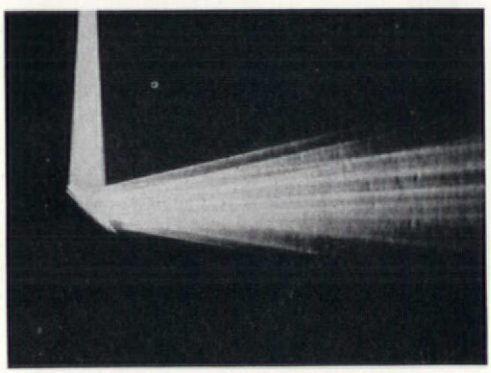


FIG. 10. REFLECTION FROM FLUTED MIRROR

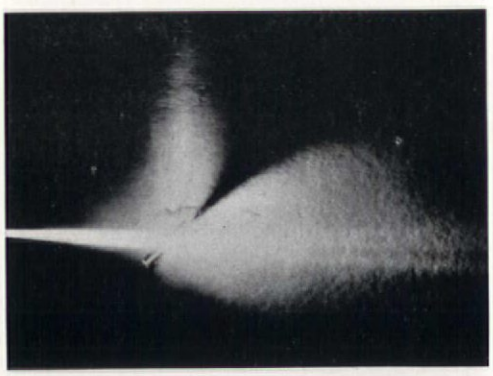
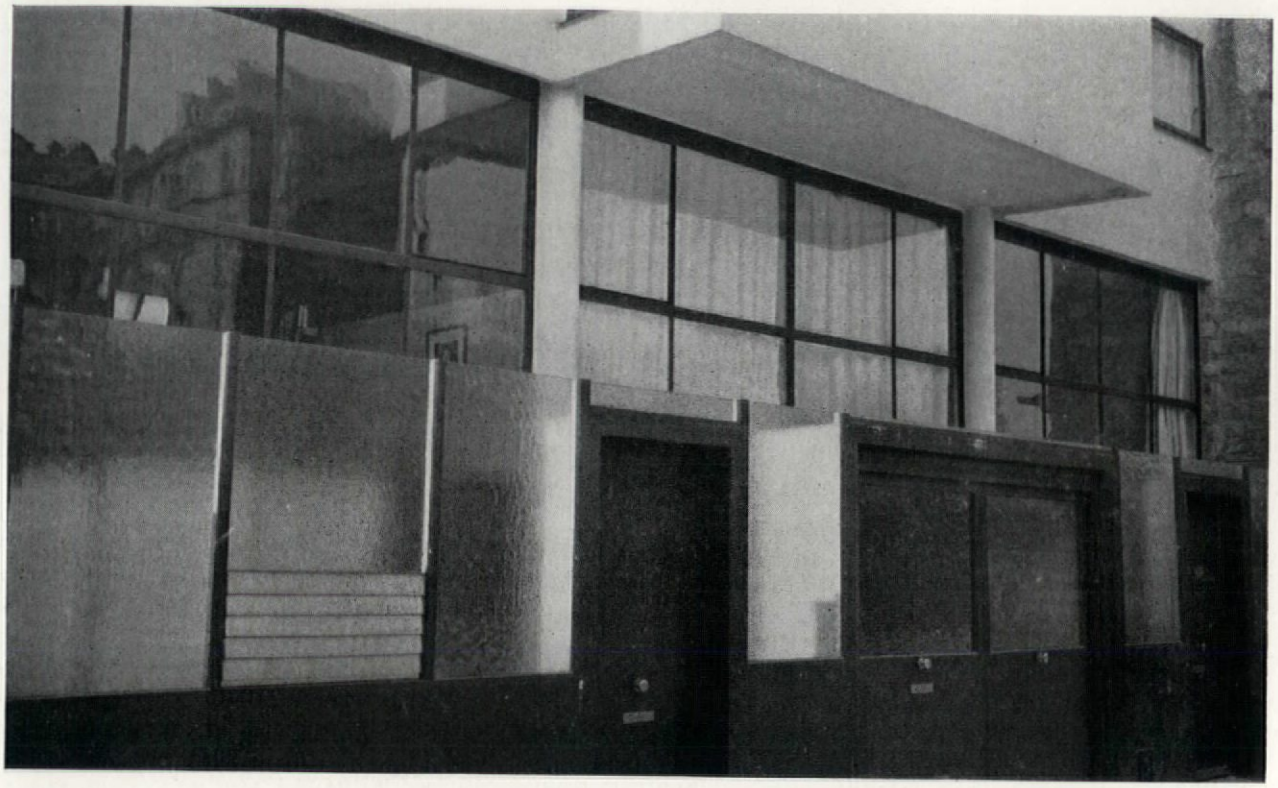
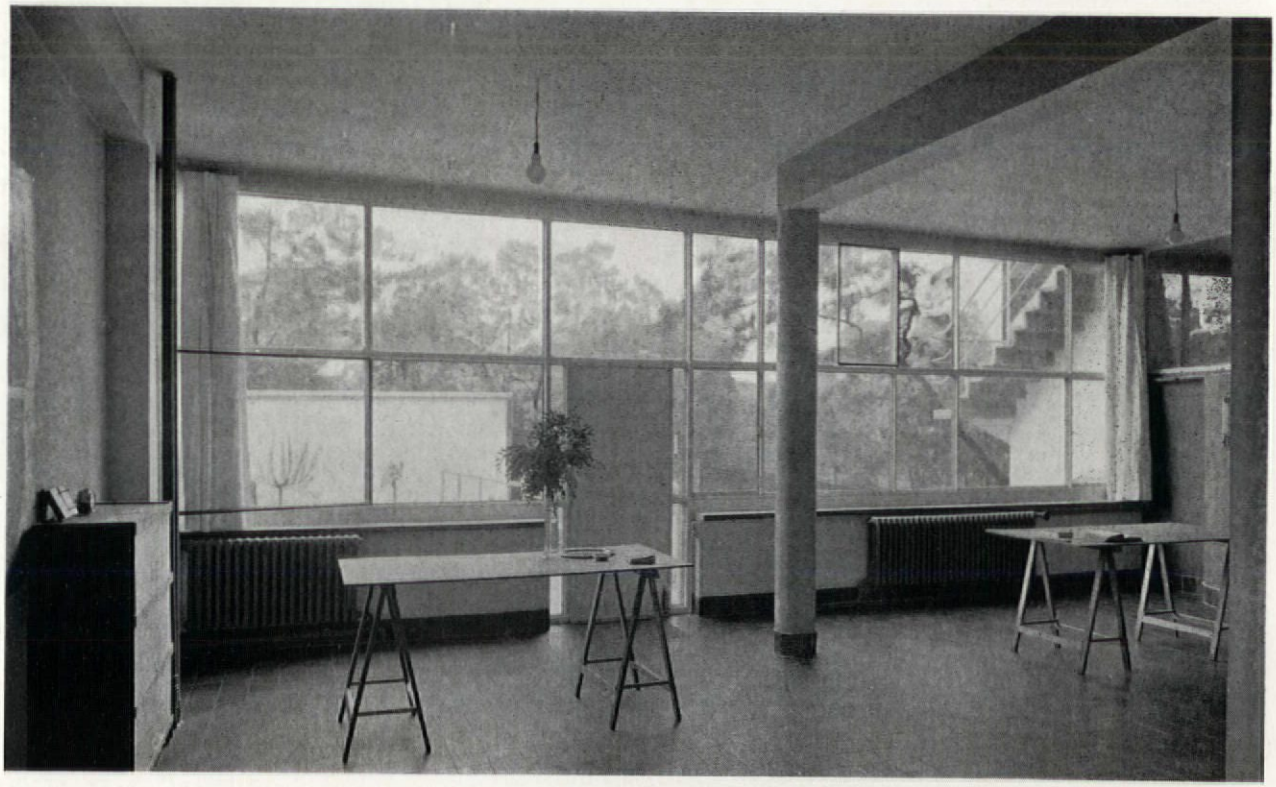


FIG. 11. REFLECTION AND REFRACTION BY FACTORY RIB GLASS

Courtesy National Lamp Works, Nela Park, Cleveland



ENTRANCE



STUDIO

PLANEIX HOUSE, PARIS, LE CORBUSIER AND P. JEANNERET, ARCHITECTS

PERMEABILITY TO SHORT WAVE LENGTH ULTRA-VIOLET RADIATION

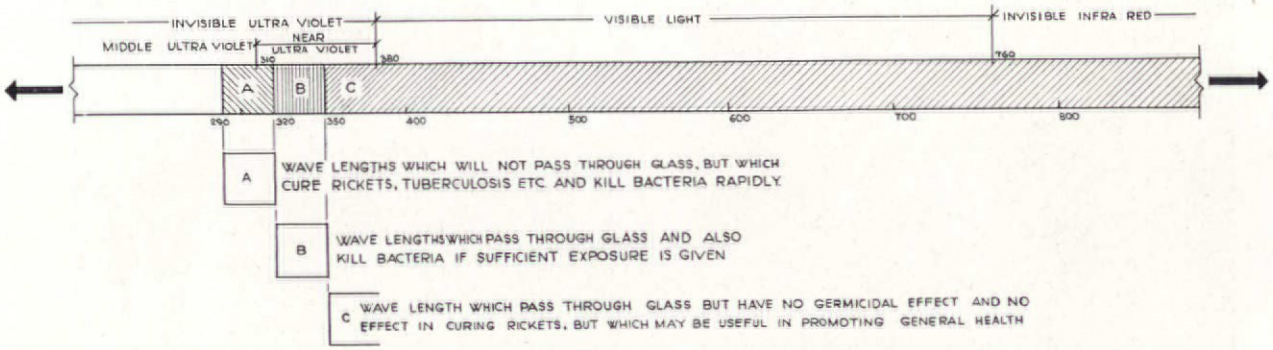


FIG. 12

DIVISION OF SOLAR RADIATION WITH INDICATIONS OF THE BANDS OF WAVES WHICH WILL PASS THROUGH ORDINARY WINDOW GLASS AND WHICH ARE OF THERAPEUTIC VALUE. WAVE LENGTHS ARE MEASURED IN MILLIMICRONS (mμ). A MILLIMICRON IS ONE-MILLIONTH OF A MILLIMETER (I).

SIGNIFICANCE

In general any material body or fluid is not transparent to radiant energy of all wave lengths. Ordinary clear glass is quite transparent to visible radiation or light but is opaque to ultra-violet radiation of the "middle" ultra-violet region (Fig. 12). The exact value of the amount of ultra-violet shut out by ordinary glass depends greatly upon the transparency of the sample of glass selected. Biologists have proven that the ultra-violet rays shut out by ordinary window glass have a special therapeutic value, especially in preventing rickets. (The rays necessary to the manufacture of vitamin D, the vitamin that controls the utilization of lime in bones, blood and tissues). Biological researches show that the strong emission line at 313 mμ has only a slight or doubtful value in preventing rickets (2) and that ultra-violet rays of longer wave lengths have no antirachitic potency. Since in the wintertime in the northern latitudes the short wave length limit of solar radiation is about 305 mμ, it appears that the spectral range of ultra-violet solar radiation useful for therapeutic purposes in preventing rickets is only 5 to 10 mμ in width. (2). The beneficial effect depends upon the time of exposure, transmissibility of the glass and intensity of the active rays. The transmissibility of glass can be extended toward shorter wave lengths so as to include the beneficial rays. It varies as a function of:

(a) Chemical composition

Various kinds of glass which are permeable to ultra-violet radiation in varying degrees are now on the market. The actual percentage of transmission of this portion of the spectrum permitted by these glasses has been determined by the Bureau of Standards (2) and biologically by the Council on Physical Therapy of the American Medical Association (3). The last-mentioned report concludes that glasses are now available which satisfactorily meet the requirements of permeability to the requisite ultra-violet radiation together with protection against the weather. The question of decrease (see below under SOLARIZATION) in this transmission of ultra-violet radiation suffered by these glasses upon exposure to light had not been brought up at the time of this report by the Council on Physical Therapy. Since then it has been investigated by the Bureau of Standards. (2.)

The Bureau of Standards (2) calls attention to the necessary correlation between the biological data and the physical measurements. The question of QUALITY of light, the proper combination of ultra-violet, visible and infra-red, enters into the efficiency of these special glasses.

The report by the Bureau of Standards (2) mentions a tendency among some distributors of these ultra-violet transmitting glasses to include 320 mμ or even longer wave lengths of the ultra-violet in the spectral range of therapeutic activity and that the inclusion of these wave lengths leads to an incorrect appraisal, as it gives a higher average transmission than seems warranted, when it is recognized that the greatest therapeutic activity occurs in the 302 mμ range of wave lengths shut out by ordinary window glass. Furthermore, since different samples of common window glass transmit from 2 to 20% at 320 mμ there is no special reason for including this wave length in the specification of these ultra-violet transmitting glasses. The report concludes that if the rays at 320 mμ have a



HOUSE VAN DER LEEUW, ROTTERDAM, BRINKMAN AND VAN DER VLUGT, ARCHITECTS

special healing value there would be no need of using special ultra-violet transmitting glass instead of selecting the least greenish (as viewed edgewise) samples of common window glass, which would serve the purpose as well, at a considerable saving in cost.

The necessity of keeping the ultra-violet transmitting glasses clean is indicated by the observations that dirt and dust can reduce the transmission at 302 mμ by 30 to 40 per cent. (2.)

(b) Thickness

The Bureau of Standards (2) gives the following data on heavy wired glass which is of importance for safety in the case of breakage when used on a sloping roof. From calculations on samples of glass which for a thickness of 2.3 mm. transmits 20 to 30%, and from direct observations, it was found that thick (6 mm., one-fourth inch wired) samples of this type of glass transmit only 3 to 5% at 302 mμ. It is shown that this transmission is too low for biological use. Hence, if thick samples must be used for safety, it is concluded that it is necessary to use material that has little or no absorption at 302 millimicrons. Otherwise it will be necessary to use single thickness (2.3 mm.) glass backed with a 1-cm. wire mesh, which shuts out about 10% of the total light.

REFLECTION AND REFRACTION

The reflecting power of these glasses is no higher than that of ordinary glass. All these glasses decrease rapidly in transmission for wave lengths shorter than 365 mμ with increasing thickness. When the thickness is increased to ¼ inch or thicker the transmission is greatly reduced. For thick prisms the transmission would be much lower. Silver has a low reflection (4%) at 320 mμ and hence, unless a better metal can be found, these special window glasses cannot be used for mirrors.

SOLARIZATION

Solarization is the designation of the photochemical reaction that most of these special glasses undergo on exposure to sunlight. A decrease in transmission of ultra-violet radiation occurs as the result of exposure to ultra-violet radiation from artificial sources and from the sun.

The solarization is essentially a problem in photochemistry, which is a function of:

(a) Time of exposure

The rate of solarization decreases rapidly with the time of exposure so that although the drop in transmission during the first day may seem alarming, it is much less during the second day and so on. It is to be noted that as a result of solarization the transmission decreases to a permanent value (2). The time of solarization, the exposure necessary before the glass reaches its permanent transmissibility value, varies with the different glasses. No doubt the time will come when new glasses which will not change in transmission will be on the market. In the meantime it will be necessary to take into consideration possible changes in the short wave length ultra-violet transmission.

(b) Temperature

The Bureau of Standards calls attention to the fact that these glasses can be rejuvenated by heating (2). The photochemical action produced by the ultra-violet rays can be reversed by heat treatment. The rate of recovery depends upon the temperature to which the glass is heated. These facts are considered as evidence in support of the view that solarization is not a destructive process, but is merely a photochemical change that can be driven in either direction, depending on the quality of the activating rays.

(c) Absorptive properties of the material for ultra-violet radiation

The Bureau of Standards' report (2) concludes that it is to be expected that the solarization will continue as long as any of the chemically active material remains uncombined, this being evident from the fact that after the glass has practically ceased to decrease in transmission, because the activating rays cannot penetrate the entire layer of glass, the solarization is renewed on turning the under (previously unexposed) side of the glass toward the source of radiation.

(d) Source of radiation

The sources used by the Bureau of Standards (2) in studying solarization were the sun, which does not contain appreciable radiation of wave lengths less than about 295 mμ, the carbon arc (without and with a glass chimney opaque to wave lengths less than 310 mμ) which has a fairly continuous spectrum of ultra-violet radiation, and the mercury arc in which the ultra-violet radiation is confined principally to a number of strong emission bands at 254 to 365 mμ. All of these sources lower the transmission of these glasses, the unfiltered radiation from the artificial sources apparently causing a somewhat greater decrease in transmission than sunlight. The Bureau of Standards suggests (2) that this may be owing to the fact that some of these window glasses solarize but slowly, and may not have attained minimum transmission in the time (one year) allotted for the test. It is concluded however, that whether we solarize these glasses



H. Collischon

APARTMENT HOUSE,
FRANKFURT

FRANZ ROECKLE, ARCHITECT



APARTMENT HOUSE,
BASEL

ARTARIA AND SCHMIDT,
ARCHITECTS



H. Collischon

APARTMENT HOUSE,
FRANKFURT

HERMKES, ARCHITECT

by exposure to the sun or obtain the photochemical stabilization by exposure to an artificial source of radiation (the mercury arc) containing ultra-violet wave lengths not present in sunlight, the same *relative* transmissions are obtained. It was found that the transmission decreased to a constant value which for some glasses is only about one-half the transmission when new. In conclusion it is stated that owing to the slowness of some glasses in coming to photochemical equilibrium on exposure to the sun, it will require several years to determine whether the accelerated test with artificial source of radiation is too severe, but that the outstanding difference in the transmission between the samples of glass subjected to the accelerated test and the duplicate samples of glass which were exposed to the sun is too small to take into consideration, and that, moreover, all the various makes of glass are comparable on the same basis whether by accelerated aging with the mercury arc and the carbon arc or by solarization by exposure to sunlight when the latter is sufficiently prolonged. A "correction factor" is used in determining the minimum transmission for sunlight on the basis of the accelerated tests. Attention is called to the rapid improvement in these new glasses.

BIOLOGICAL VALUE

The antirachitic value of these glasses is a function of:

(a) The transmissibility of the glass.

(b) A source or locality (in the case of sunlight) having sufficient ultra-violet to prevent rickets.

In the case of sunlight the minimum transmission permissible will depend upon the altitude and latitude of the given location. Evidently the most transparent glass available will be required in the northern latitudes, where the activating rays are of low intensity, while in locations where sunlight is abundant a glass having a lower transmission factor may prove satisfactory. This conclusion is based upon the report issued by the Council on Physical Therapy of the American Medical Association (3), which shows that only those glasses which had a transmission of 30%, or higher, at 302 mμ gave an appreciable protection against rickets, but that this protection was not 100%.

Reports on the antirachitic efficiency of solar radiation in northern latitudes through various samples of ultra-violet transmitting glasses (4, 5, 6, 7) show that in order to obtain a useful antirachitic effect from sky shine (that is, solar radiation from the sky and clouds) approximately equal to that of the direct rays of the sun, it is necessary to construct a solarium glazed with special glass permeable to ultra-violet radiation and which will admit rays from a large part of the sky; and furthermore (8) that in order to prevent rickets, the animals under test had to be kept directly in the path of the sun's rays if an ordinary window opening glazed with this special glass was used. Those animals that were 1 m. or more from the window, or close to the window, but outside of the path of the sun's rays developed rickets.

The Bureau of Standards report (2) concludes that all evidence available at present indicates that a solarium glazed with special window glass or windows exposed to the direct sunlight are necessary in order to obtain beneficial results in preventing rickets and presumably for general therapeutic purposes, and because of the variability of sunlight, calls the attention to the use of artificial sources, especially the carbon arc and the quartz mercury arc lamp. However, since the shortest ultra-violet rays emitted by these artificial sources of radiation appear to be unsuitable for the activation of foods, etc., it is considered desirable in such cases to cover the arc with a screen which transmits only wave lengths longer than 290 millimicrons; that is to say, the wave lengths which occur in sunlight.

It is evident that further biological research work is needed.

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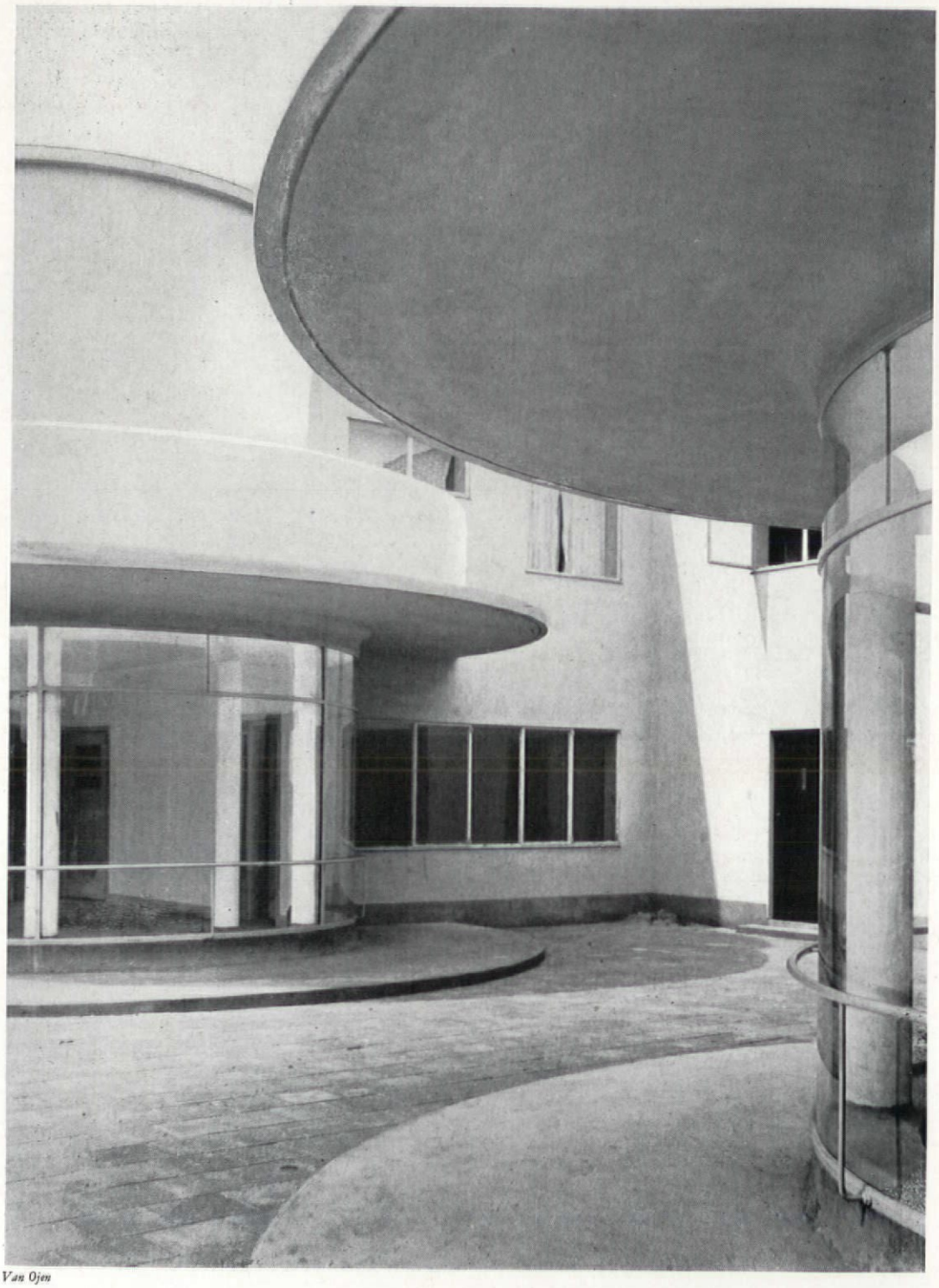
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Van Ojen

STORE FRONTS, HOEK VAN HOLLAND, J. J. P. OUD, ARCHITECT

PERMEABILITY TO HEAT

THERMAL CONDUCTIVITY OF MATERIALS

	K
Cinder concrete	2 to 3
Building gypsum	About 3
Plaster	2 to 5
Building brick	3 to 6
Glass	5 to 6
Limestone	4 to 9
Concrete	6 to 9
Sandstone	8 to 16
Marble	14 to 20
Granite	13 to 28

Table 4 (1)

K—Thermal conductivity in Btu. per hour, sq. foot, and temperature gradient of 1 deg. F. per inch thickness. The lower the conductivity, the greater the insulating values.

HEAT TRANSMISSION

The thermal conductivity can be varied with structure and density in the ratio of two to one, the figures running about 0.1% that of silver, 0.3% that of copper, and 1% to 2% that of iron. Although the conductivity of glass is so far below that of the metals, surface conditions are such that heat transfer through a copper condenser is only two and one-half times that through a condenser of *Pyrex* glass (a special borosilicate glass). In specific heat ordinary glass is near aluminum and about twice iron or copper. The low power of reflecting radiated heat is used with advantage in the construction of baking dishes of special borosilicate glass. The high reflecting power of metal slows down the heating of its content to an extent not compensated by its thinness and high conductivity. Although heating takes place more rapidly, yet cooling takes place more slowly in glass than in metal. Glass conducts heat about one hundredth as fast as metal and the greater thickness of the glass dish also impedes cooling.

The insulating value of glass depends upon its thickness as well as upon the thermal conductivity. In general the insulating value, that is the resistance to the heat flow, is equal to the thickness of a material divided by its thermal conductivity, i.e. the reciprocal of the conductance. For thick walls built of insulating materials the rate of heat transmission will be governed mainly by the absolute conductivity of the material itself, the surface finish being of relatively little importance; but for thin walls built of conducting materials the rate of heat transmission will be governed mainly by the surface transfer. Increase in absolute conductivity, reduction in thickness, or acceleration of the outer surface transfer of heat tends to lower the inside surface temperature of the wall.

THERMAL EXPANSIVITY

The change in volume caused by heating or cooling glass is very small, but important in the use of glass for structural purposes. The thermal expansivity can be made to vary in as high a ratio as six to one. Commercial glasses have linear expansivity ranging from three millionths to eleven millionths, these fractions representing the extent to which the length increases or decreases on heating or cooling one degree centigrade. Where ordinary lime glass expands 10 millionths, copper expands 17, iron 12, and platinum 9, this being also the figure for certain lead glasses which are readily sealed to platinum. For special borosilicate glasses (*Pyrex* glasses) the value is around three. Quartz glass, which is amorphous silica, has a linear expansivity of less than one millionth and can be heated and plunged into cold water without breaking.

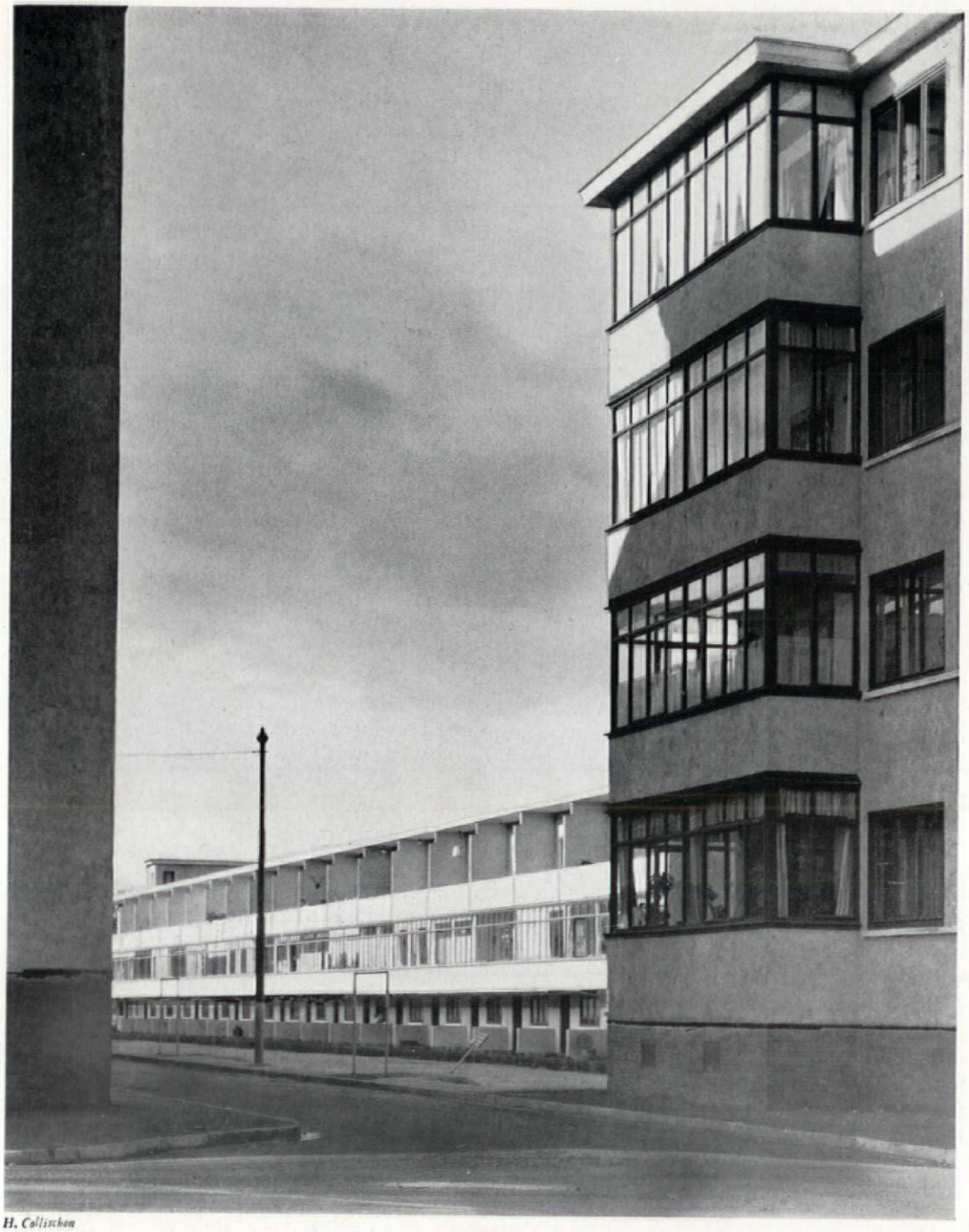
HEAT ABSORPTION

Recent experiments with new glass compositions (2) have demonstrated the possibility of making a heat absorbing glass of low thermal expansion capable of withstanding a considerable heat shock. This heat-resisting, heat-absorbing glass, has been employed in projection apparatus to remove the invisible heat radiation. It is sold under the trade mark AKLO (*Corning Glass Works, Corning, N. Y.*). The desired heat transmission or light transmission, as the case may be, can be secured with a thin piece of a dense glass or a thick piece of a dilute glass. The latter has in general a better light transmission for a given heat transmission than does a thinner piece of a denser glass.

INSULATING VALUE

The heat transfer through a single window is usually more than twice that of a double window (3).

Vacuum panes now being developed in Europe and structural units of vacuum type (up to 90% vacuum) possess the insulating value of vacuum bottles and reduce condensation. Walls and windows of structural glass units eliminate infiltration.



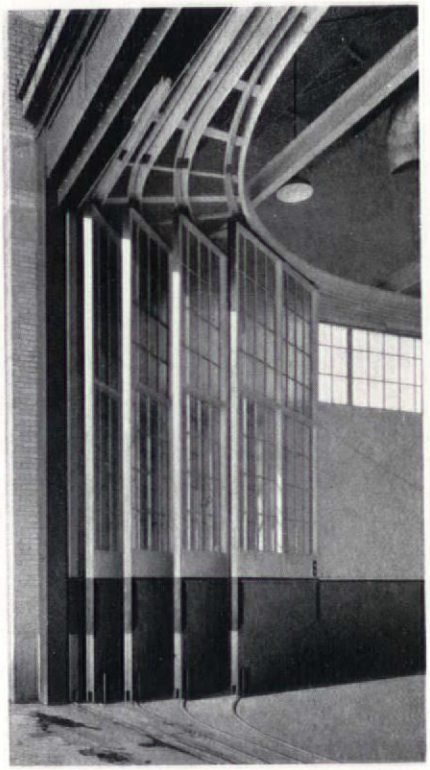
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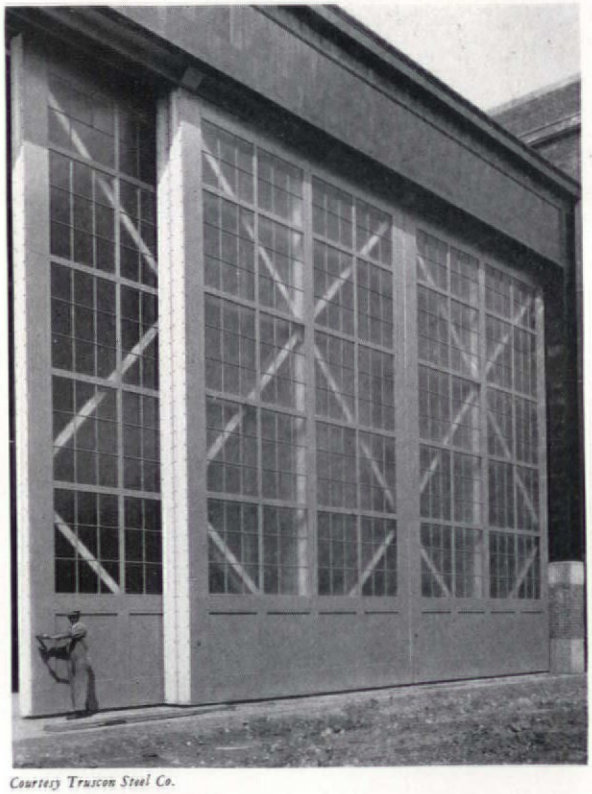
FIRE RESISTANT CONSTRUCTIONS

Steel wire netting incorporated in glass of ¼" thickness and over afford fire protection (resistance to passage of flames and the cooling and impact of fire streams) by holding the glass in the sash after it has been cracked from the heat. The degree of protection furnished by a wired glass window is naturally limited to the fusing point of the glass. Fire records show, however, that under ordinary conditions where the exposure is not especially severe such windows are effective fire stops (4). One-quarter inch wired glass for fire protection must not exceed 720 sq. in. exposed area or 54" vertical and 48" horizontal dimensions to conform to the rules of the National Board of Fire Underwriters. (Class E openings.)

Constructions of glass prisms placed in metal frames or reinforced concrete frames with an elastic compound to allow for expansion and walls of reinforced glass blocks are effective fire stops. Fireproof glass windows, walls and partitions used in Europe ("Luxfer" Electro and "Solfac" Galvano glass) consist of 10 x 10 cm. prismatic crystal glasses fastened electrolytically in copper frames. The profile and strength of the frame depends on the type of glass used. Great areas are divided by metal or reinforced concrete frames. Expansion joints are provided when the glass is placed in the frames. These constructions can also be used for roof lights.



Courtesy Truscon Steel Co.



Courtesy Truscon Steel Co.

SLIDING STEEL HANGAR DOORS

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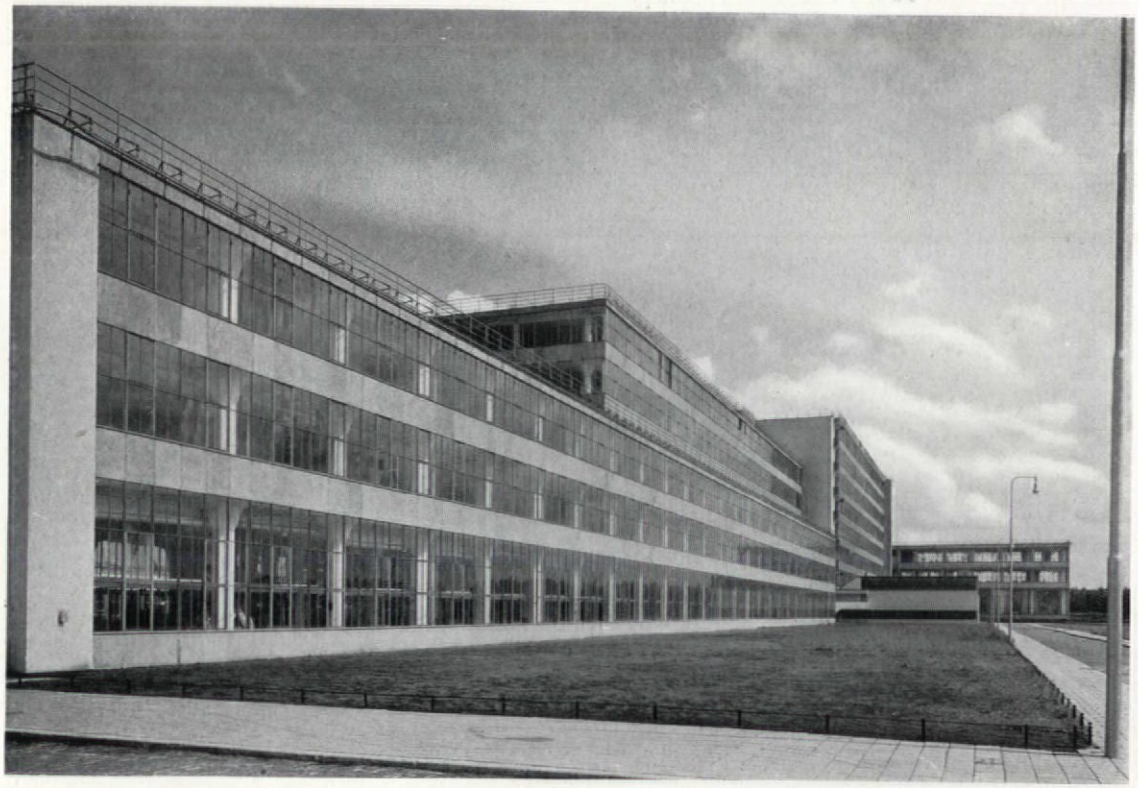
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Kamman



VAN NELLE TOBACCO FACTORY, ROTTERDAM, BRINKMAN AND VAN DER VLUGT, ARCHITECTS

ACOUSTICAL PROPERTIES*

1. ABSORPTION OF SOUND

As an absorbent of sound, glass is among the lowest rated materials, due to its smooth surface. The value of its absorption is generally taken at 1½% as compared with 3% for hard gypsum plaster on metal lath and 6% for lime plaster on wooden lath. In very large sheets it would undoubtedly vibrate as a diaphragm under the impact of sound and would have absorption values in excess of 1½% at various frequencies, corresponding to its natural period of vibration and various harmonics thereof. Values on the sound absorption coefficient of glass vary with different authorities. The value 0.027 at 512 cycles has been secured by both W. C. Sabine and F. R. Watson. Results at other frequencies are unobtainable. The Bureau of Standards gives the following values of absorption coefficient of glass: 0.021 at 297 cycles; 0.020 at 1095 cycles; and 0.010 at 2190 cycles. The Bureau of Standards apparently accepts and uses the value of 0.027 at 512 cycles.

2. TRANSMISSION OF SOUND

Paul E. Sabine, J.A.S.A., January, 1930 (1):

"A door or window may be treated as a single structural unit, and the tests on these constructions show that the reduction factors are determined for the greater part by the weight of such units and also, but to a less degree, by their structural stiffness. Table 5 gives the averaged results for 16 different units (Editor's note: only seven units employing glass are shown). Unless otherwise indicated the units were sealed in tightly in each case so that the values are somewhat higher than would be the case in actual practice, when the sound insulation is decreased by the passage of sound through the cracks at the threshold and sides.

No.	Description	Av. Reduction (db.)	
		128 to 4096	128 to 1024
10	Window, one pane 79"x30", ¼" plate glass	23.0	22.8
11	Window, 4 panes each 15"x39", ¼" plate glass	25.7	25.3
12	Window, 2 panes each 31"x39", 3/16" plate glass	20.1	19.7
13	Same as 12, but double-glazed with glass set in putty on both sides of sash, 1" separation	23.4	23.1
14	Same as No. 13 but with glass set in felt	25.4	24.0
15	Small 3/16" leaded panes	25.0	23.9
16	12 panes 10"x19", ⅛" window glass	21.7	21.2

Table 5. (*Table 1 of P. E. Sabine*).

Reduction factors for single glass panes (1).

"Inspection of the values for the windows suggests that the crossbracing of the sash effects a slight increase in insulation over that afforded by larger unbraced areas of glass. On the whole, it may be said that normal door and window construction can not be expected to give a reduction of more than 25 db."

The above values for the average reduction factors were the averages for a number of standard test tones which included four tones in each octave below 1024 cycles per second, and two tones in each of the two octaves above this frequency, or seventeen tones in all.

In addition to the above data on single thicknesses of glass, the following information on double thicknesses of glass with various air separations are also quoted from the same article by Paul E. Sabine (1).

"This series of tests was conducted with two single-pane ¼" plate glass window, 82" x 34" set in one of the Sound Chamber openings. Spacing frames of 1" poplar, to which ½" saddler's felt was cemented, were used to separate the two windows.

"The separation between the windows was increased by increasing the number of spacing frames. It is evident that the experiments did not show the effect of increased air space alone, since a part of the transfer of sound energy is by way of the connection at the edges. However, the results presented in Table 6 show that the spatial separation between double walls does produce a very appreciable effect in increasing sound insulation."

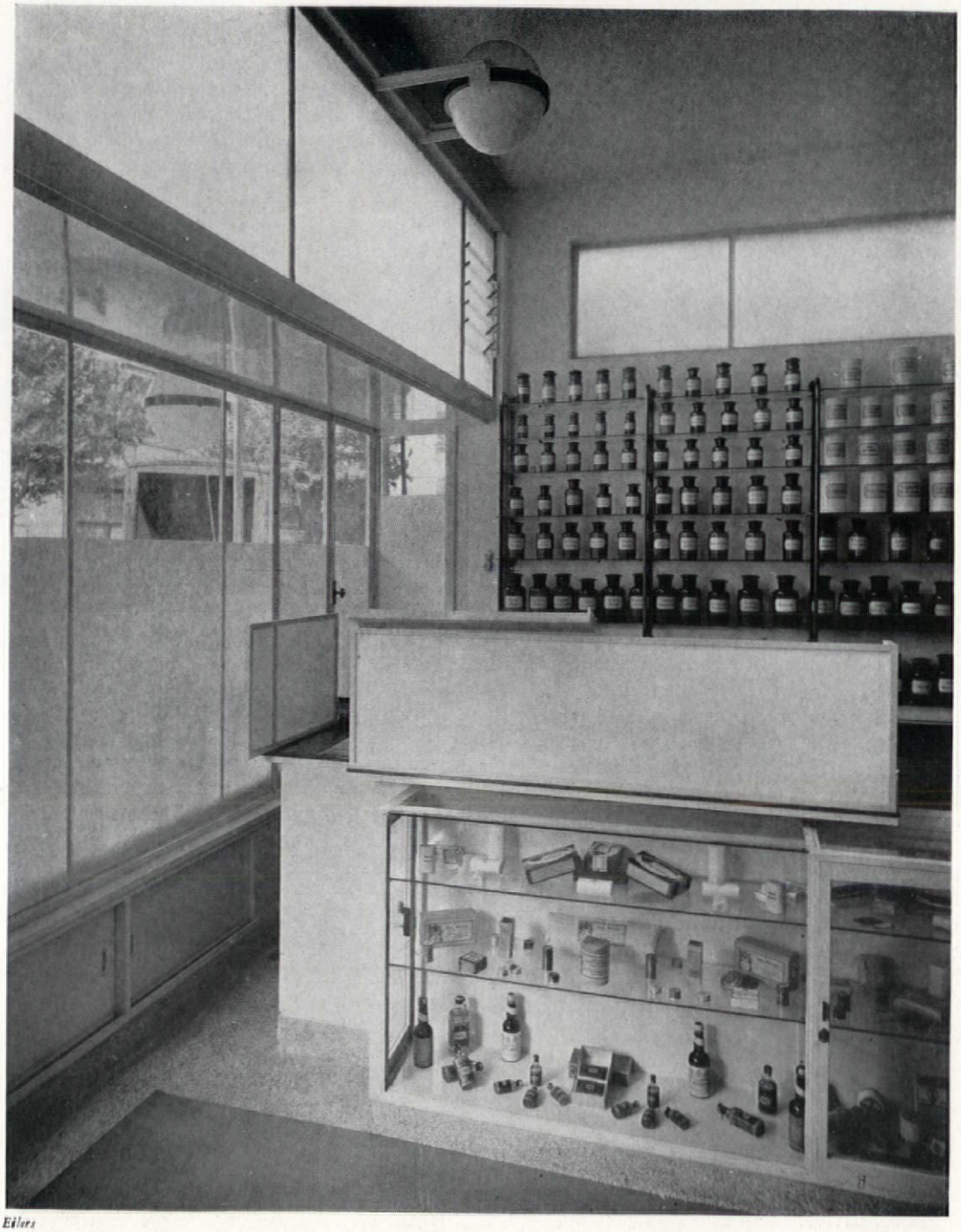
No.	Description	Reduction (db)	Equiv. Masonry
48	Sashes in contact	29.3	1.8"
49	1½" separation	34.0	2.6"
50	4½" separation	35.3	3.0"
51	7½" separation	38.2	4.1"
52	9½" separation	40.7	4.8"
53	13½" separation	42.5	5.5"
54	16" separation	43.0	5.8"

Table 6.

Reduction factors for double glass panes (1).

Transmission of acoustic energy by partitions of wood, glass, steel or masonry, which are impervious, must take place by means of minute vibrations of these structures set up by the alternating pressure of the incident sound. Sound, considered as undulatory motion of the air particles, cannot pass through such barriers. If the natural frequency of the partition is much lower than the frequency of the incident sound, the transmission depends chiefly on the mass of the partition. If the natural frequency is much higher than that of the incident sound, the transmission depends on the stiffness of the partition.

* Compiled for The Architectural Record by G. T. Stanton, Asst. Acoustic Engineer, Electrical Research Products, Inc., New York.



Eilers

DISPENSARY, J. DUIKER, ARCHITECT, HOLLAND

Quoting from F. R. Watson's "Acoustics of Buildings", 1930 (2):

"Experience has shown the following in connection with sound reduction:

"With an average reduction factor of 25 db., normal speech can be understood quite easily and distinctly through the partition.

"With an average reduction factor of 30 db., loud speech can be understood fairly well if conditions are quiet.

"With an average reduction factor of 35 db., loud speech is audible, but not easily intelligible under quiet conditions.

"With an average reduction factor of 40 db., normal speech is not audible, loud speech can be faintly heard, but not easily understood, and for all practical purposes the partition can be considered as 'sound proof'.

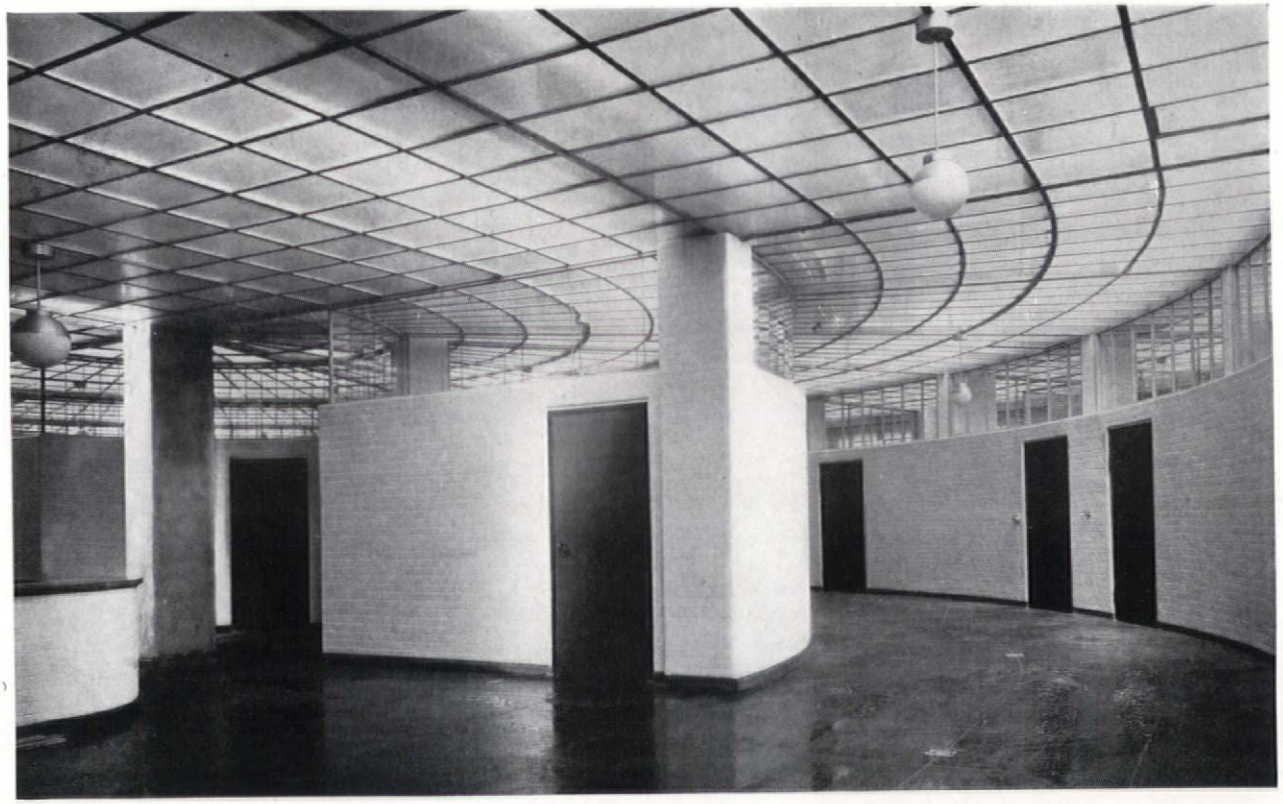
"Flexural vibrations play an important part in transmission. Dead air spaces between double windows were not as effective as commonly supposed. The air space should not be bridged over by solid materials even at the edges of the glass. Inserting sound absorber between the glass plates increased the insulation." The results obtained by the Bureau of Standards on transmission tests through glass are quite similar to those obtained by Paul A. Sabine.

No information as to the relative reduction factors of the glazing method used in the monitoring booths of the various film studios could be obtained. This method uses different thicknesses of glass with a constant spatial separation, and is said to be more satisfactory than using glass of the same thickness at the same spacing. This point would appear to be reasonable if the theory of transmission in such impervious structures is correct by providing a mismatch of the air impedance in the various sections. This condition, however, would only be true in the event of true diaphragm action of the glass windows. The presence of diaphragm action is evidenced in Table 5 of Paul E. Sabine, since with small sections of glass rigidly braced greater reduction factors were obtained.

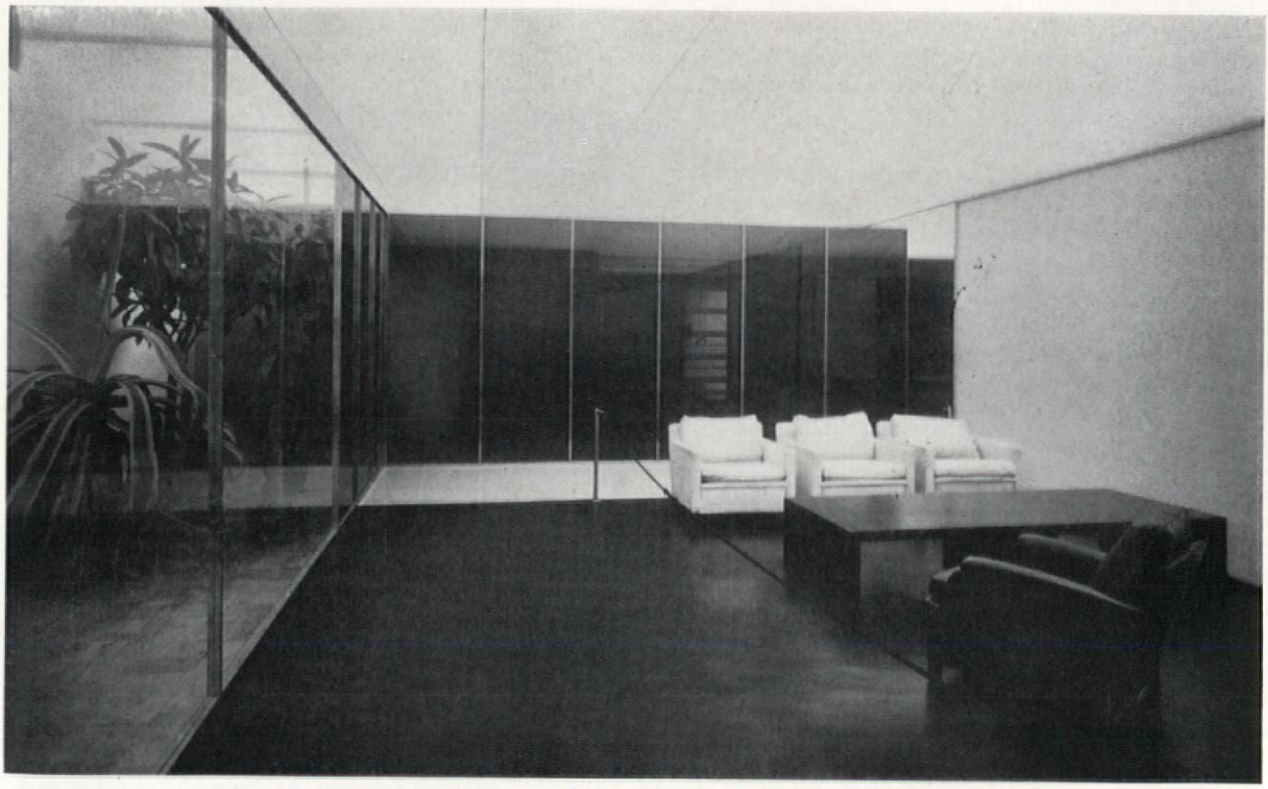
It is to be appreciated that reduction factors as indicated for double windows were not generally the obtainable in practice, since the conditions of the tests were commercially unobtainable. In this particular test, there was no connection between the windows by way of the sashes or surrounding masonry structures since two completely isolated rooms were used.

REFERENCES

1. *Journal of the Acoustical Society of America.*
2. *Acoustics of Buildings*, 1930, by F. R. Watson.



HALLWAYS, ADMINISTRATION BUILDING, DESSAU, WALTER GROPIUS, ARCHITECT



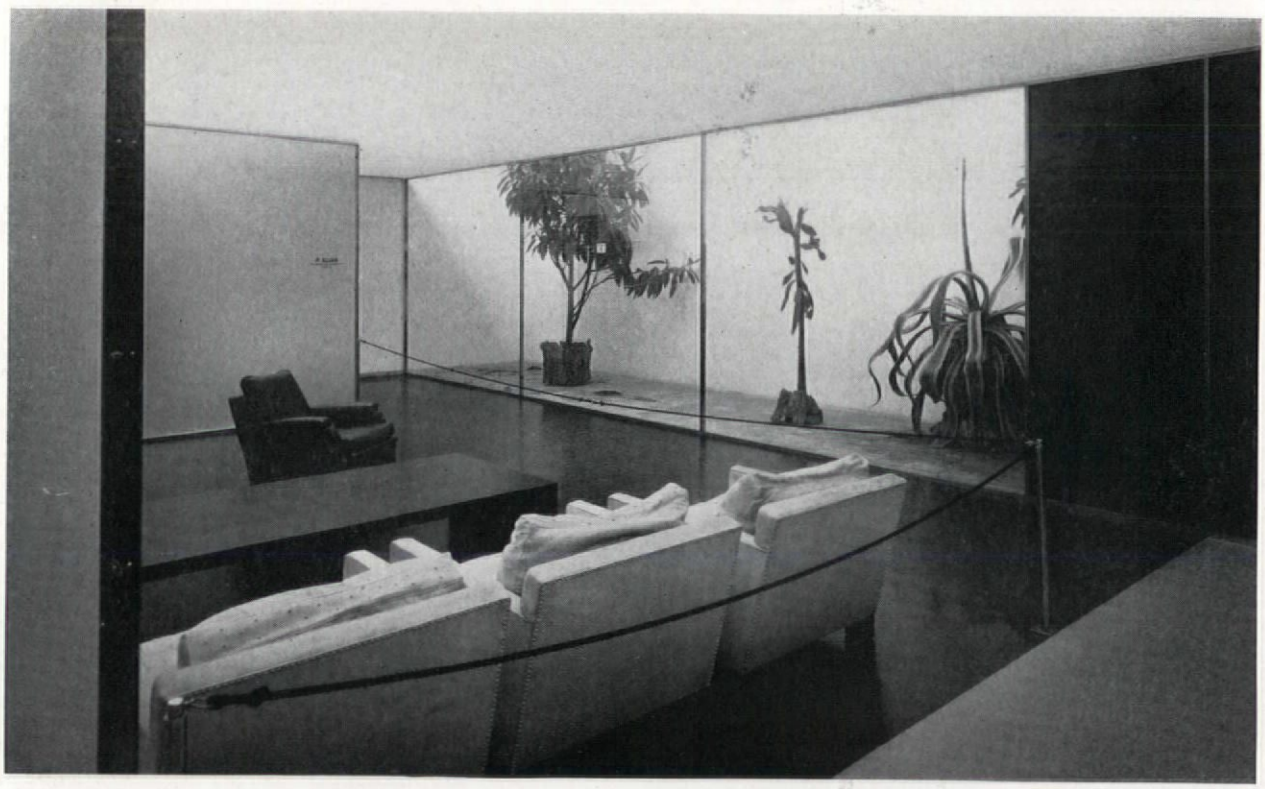
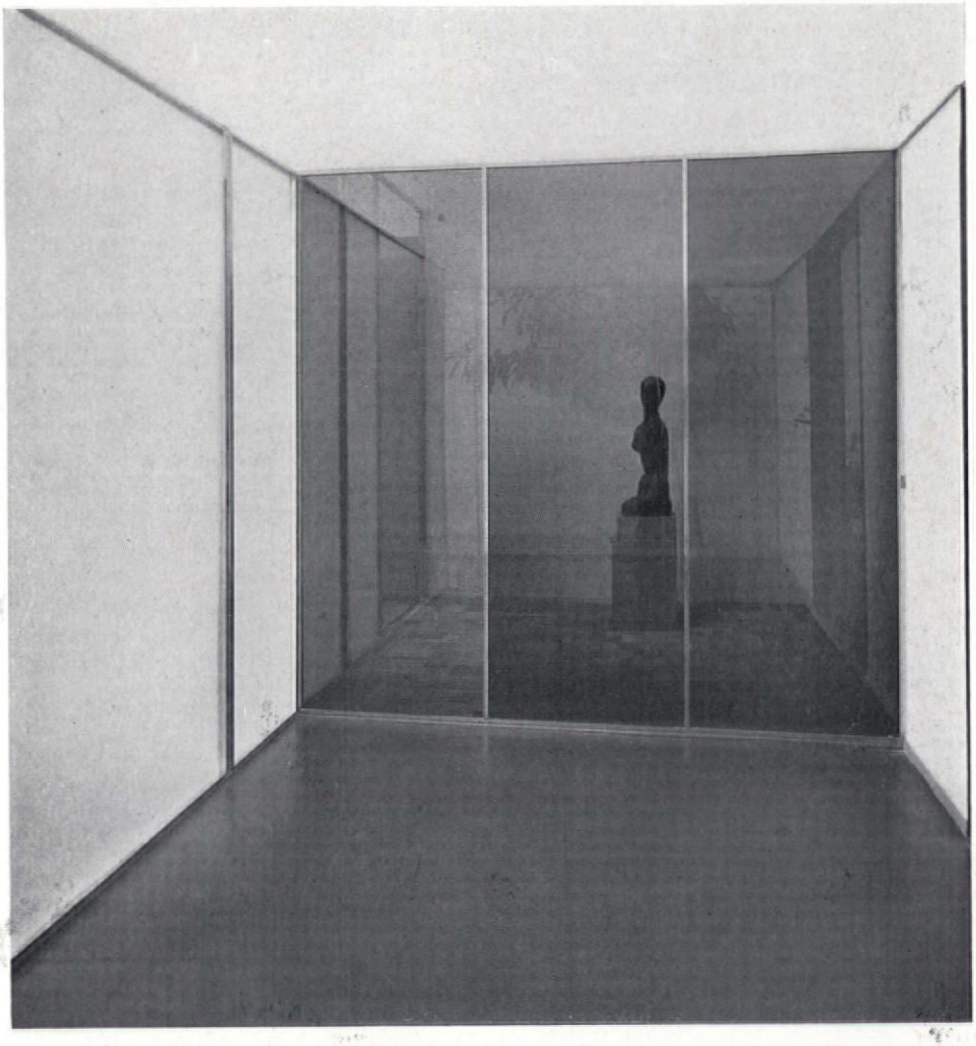


PLATE GLASS PARTITIONS, EXPOSITION STUTTGART, MIES VAN DER ROHE, ARCHITECT



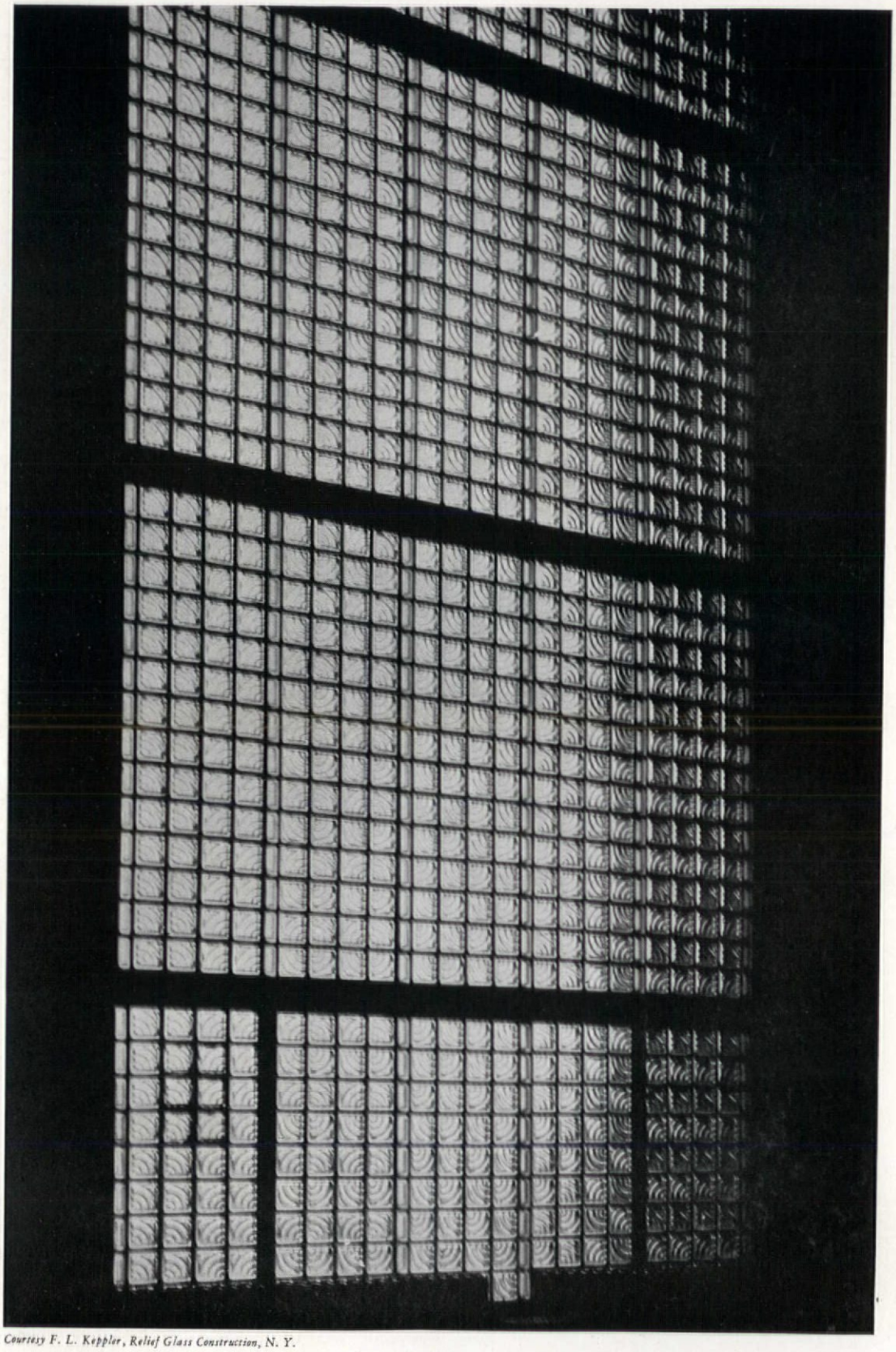
MIES VAN DER ROHE, ARCHITECT

PERMEABILITY TO FLUIDS

The surface of glass is non-porous, does not crack, absorbs no odors, and is impervious to air, gases, water, grease and most acids. Glass will not warp, swell, pull apart or lose its hardness when exposed to moisture. A polished surface will not disintegrate and will retain its luster; it is difficult to mark or write on, and is particularly easy to keep clean. For these reasons clear or colored glass polished or modeled in sheets or in tiles of sufficient structural strength can be used extensively for exterior and interior wall treatment, partitions, toilet stalls, shopfronts, floors, ceilings, mirrors, furniture, signs and lighting equipment. Glass will furthermore meet the criteria for a number of building fixtures.

REFERENCES

Glas im Bau und als Gebrauchsgegenstand, by Arthur Korn, Ernst Pollak Verlag Berlin-Charlottenburg.



Courtesy F. L. Keppler, Relief Glass Construction, N. Y.

PRISM WINDOW

MECHANICAL PROPERTIES

The mechanical properties depend on composition and dimensions. The specific gravity or density of ordinary lime glass, 2.5, is close to that of metallic aluminum, 2.6. It can be made to vary in a ratio of about three to one, namely from 6.33 to 2.14. The weight of ordinary glass is roughly 2 lbs. for each 1/8" of thickness.

The hardness of glass, that is, its imperviousness to scratching, can be made to vary in about a two-to-one ratio, the hardest being harder than quartz.

The tensile strength of glass in laboratory measurements ordinarily is about 10.000 lbs. per sq. inch. It is possible to prepare glasses by special heat treatment, the so-called case-hardening process, of tensile strength near that of wrought iron, which is about 50.000 lbs. per sq. inch. The compression strength of glass is greater than that of ordinary structural materials such as granite, concrete or brick. Glass can be worked and shaped and polished to a brilliant surface.

The common causes for fracture are compression, tension, flexure, impact and sudden temperature differences causing internal stresses. Ordinary sheet and plate glass should not be subjected to structural strains; edges in contact with other materials should therefore be cushioned.

Fire-resistant constructions (see PERMEABILITY TO HEAT).

Wired glass

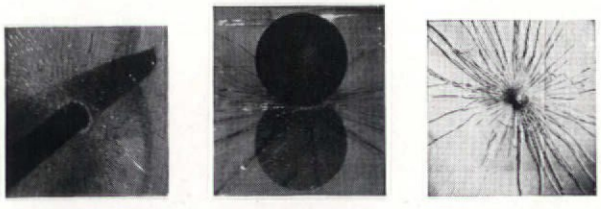
Wired glass has about 1½ times the bending strength as glass of same thickness not wired. The wired-mesh reinforcing causes a loss in light transmission.

Corrugated glass

Corrugated glass, wired or clear, has a higher bending strength than flat glass.

Laminated safety glasses

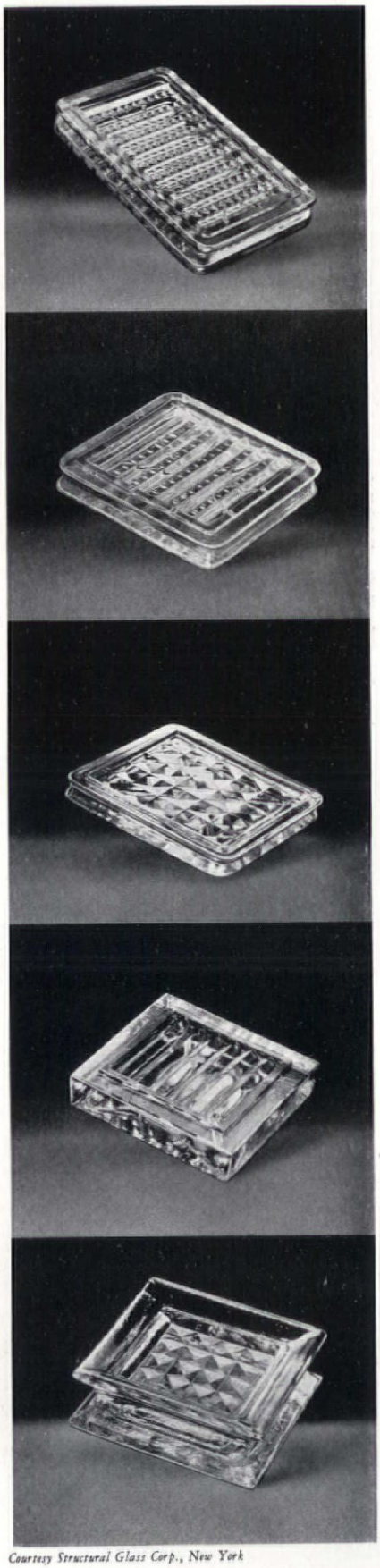
These glasses consist of two or three thicknesses of plate or drawn sheet glass with one or two layers of a transparent pyroxylin plastic between. The layers are welded into a single piece under heat and great pressure. The adhesion between the glass and the



Courtesy American Window Glass Co.

FIG. 13.

THE LAMINATED GLASS IS CRACKED BY THE ROD AND BY THE IMPACT OF THE STEEL BALL BUT DOES NOT SCATTER



PRISM
6⅜" x 10¼" x 1"

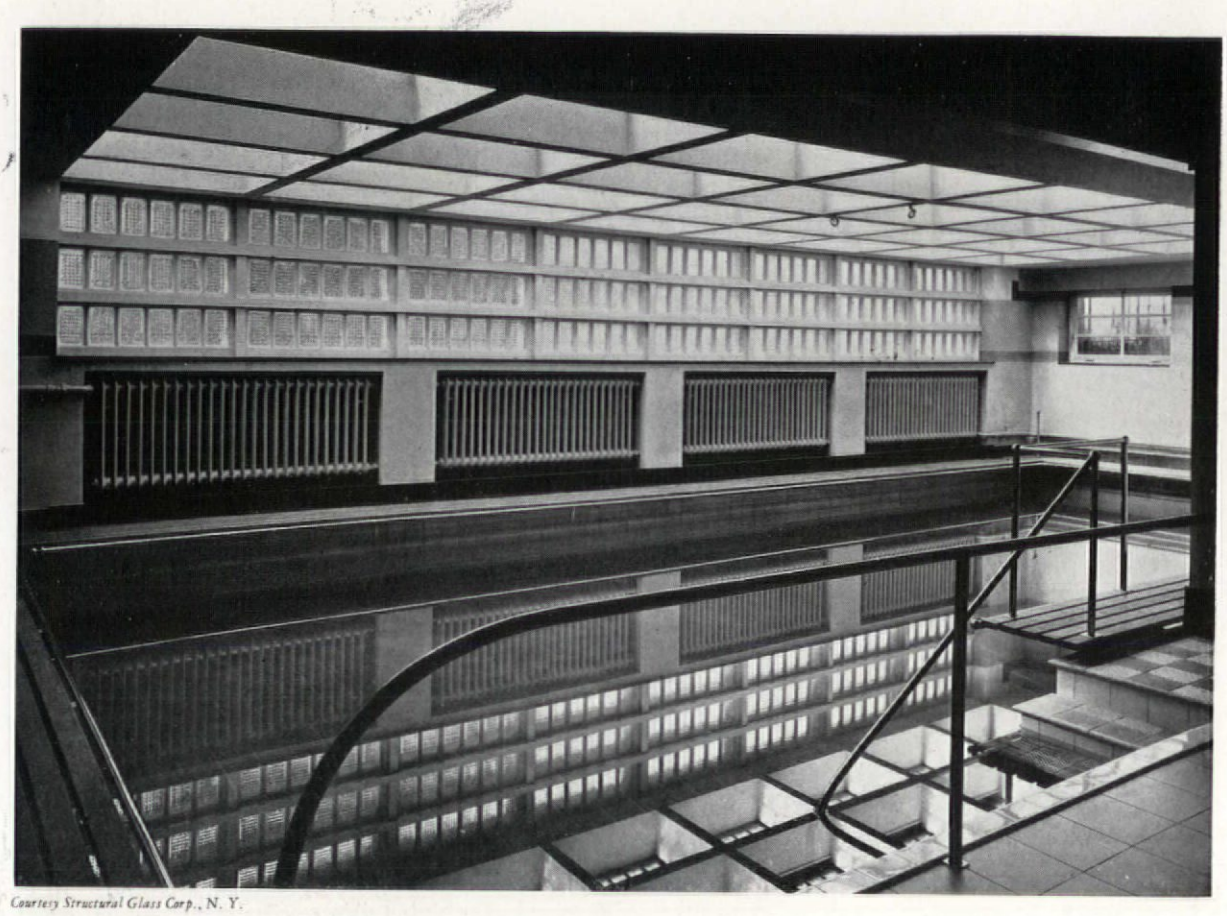
PRISM
6⅜" x 6⅜" x 1"

PRISM
8¼" x 8¼" x 1"

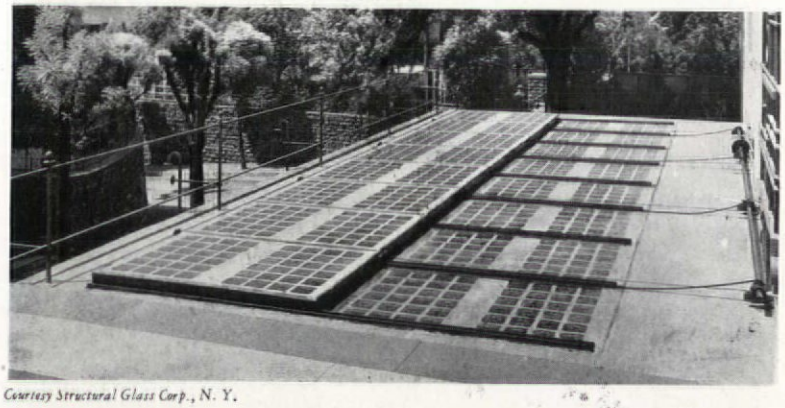
PRISM
4⅞" x 4⅞" x 1"

TILE
6" x 6" x 2"

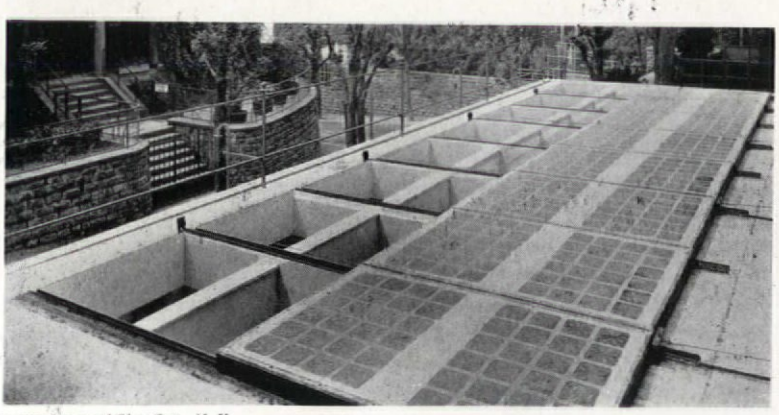
Courtesy Structural Glass Corp., New York



Courtesy Structural Glass Corp., N. Y.



Courtesy Structural Glass Corp., N. Y.



Courtesy Structural Glass Corp., N. Y.

SWIMMING POOL WITH SLIDING ROOF

plastic is so complete that the glass will not separate from the plastic when it is broken. (Fig. 13). In its finished form this glass can be cut only with special tools. Laminated glass does not impair visibility. It is manufactured in various thicknesses, from light scatter-proof glass to heavy 1″ thick bullet-proof glass.

Prismatic units

The combination of glass prisms and slender reinforced concrete ribs makes the glass an integral part of the construction. All metal members are imbedded in concrete, and there is no risk of corrosion. The panels seldom exceed 35 to 40 square feet; they can be made in the plant or built on the job. Expansion joints should be provided around the panels. The design of the prisms should insure a minimum loss in light transmission (Fig. 14), a minimum strain on the flanges, and easy exchange of broken units. Ventilation units in bronze frames can be placed in these constructions. In addition to light-transmitting properties, these relatively light constructions usually are fire-proof and sound-proof. Heat-insulating value varies; air infiltration is eliminated. Maintenance cost is minimal.

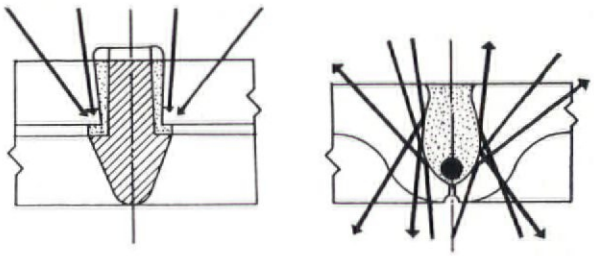


FIG. 14.

THE CONSTRUCTION AT RIGHT TRANSMITS PART OF THE LIGHT WHICH IS STOPPED BY THE METAL MUNTIN IN THE CONSTRUCTION AT LEFT.

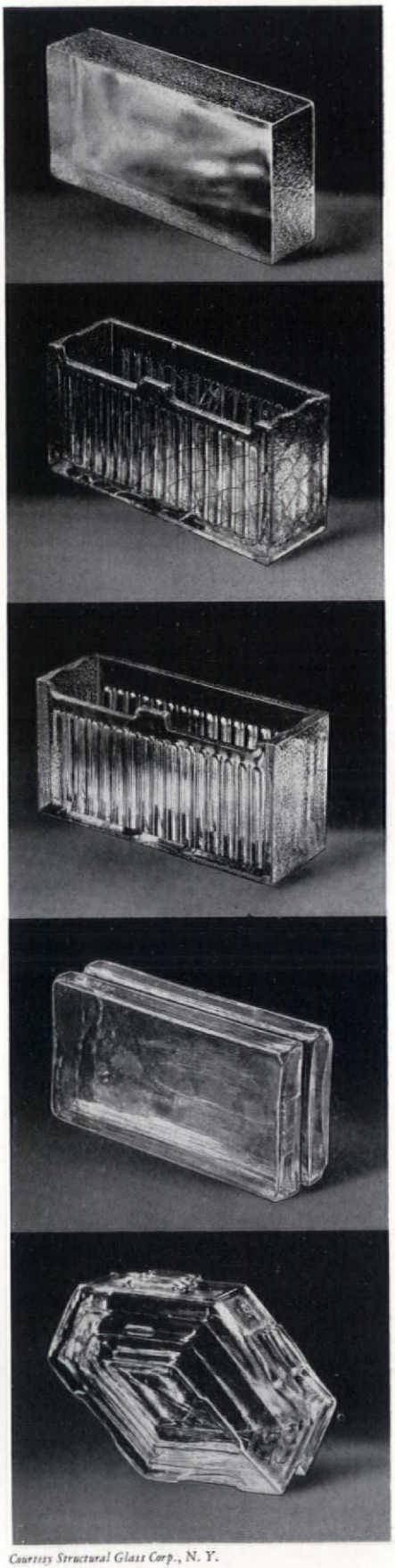
Glass bricks

Panels of hollow, vacuum or solid glass bricks or blocks of various compositions and colors are constructed without reinforcing members. The glass is clear or wired. The bricks are laid in cement-mortar with lime added for pliability. The hollow bricks should be designed to insure a minimum loss in light transmission in the hollow or through reflection. Broken units should be exchangeable. The panel sizes average the sizes given above. Reinforced blocks have high fire-resisting qualities. The cost of these panel constructions (prisms and blocks) varies with the type of glass from $2.30 to $3.40 per square foot installed.

REFERENCES

Glas in der Architectur der Gegenwart, by K. W. Schulze, Wissenschaftlicher Verlag Dr. Zaugg & Co., Stuttgart, 1929.

Glass Industry, published monthly by Glass Industry Publishing Co., New York.



SOLID BRICK
10″ x 5″ x 2½″

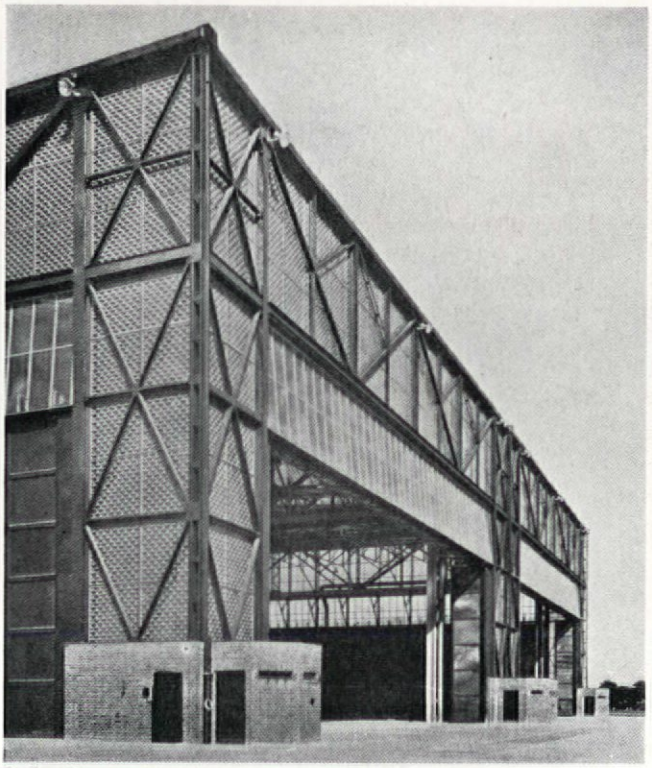
HOLLOW BLOCK
9¼″ x 4½″ x 3″

HOLLOW BLOCK
9½″ x 4½″ x 3″

VACUUM BLOCK
9¾″ x 5″ x 2½″

VACUUM BLOCK
7¾″ x 5½″ x 3″

Courtesy Structural Glass Corp., N. Y.



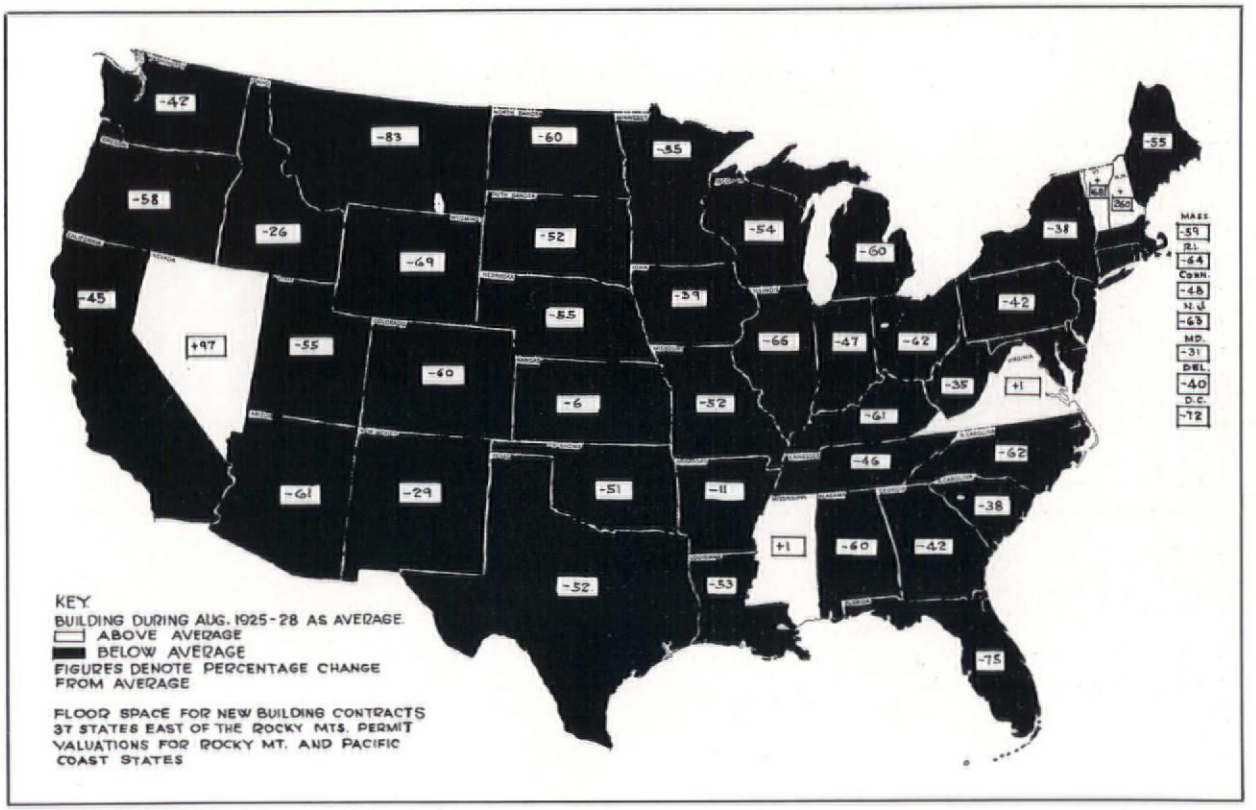
Der Baumeister

GLASS BLOCK WALLS, AIRPLANE HANGAR, MUNICH
K. J. MOSSNER ARCHITECT



Courtesy Structural Glass Corp., N. Y.

ROOF LIGHTS



The volume of building for August, 1930, showed only five states where current new volume was greater than average (August, 1925-1928): New Hampshire, Vermont, Virginia, Mississippi and Nevada. Of these Virginia and Nevada consolidated their July gains. Other states showing gains in July failed to carry through in August.

BUILDING TRENDS AND OUTLOOK

PROSPECTS FOR NON-RESIDENTIAL CONSTRUCTION

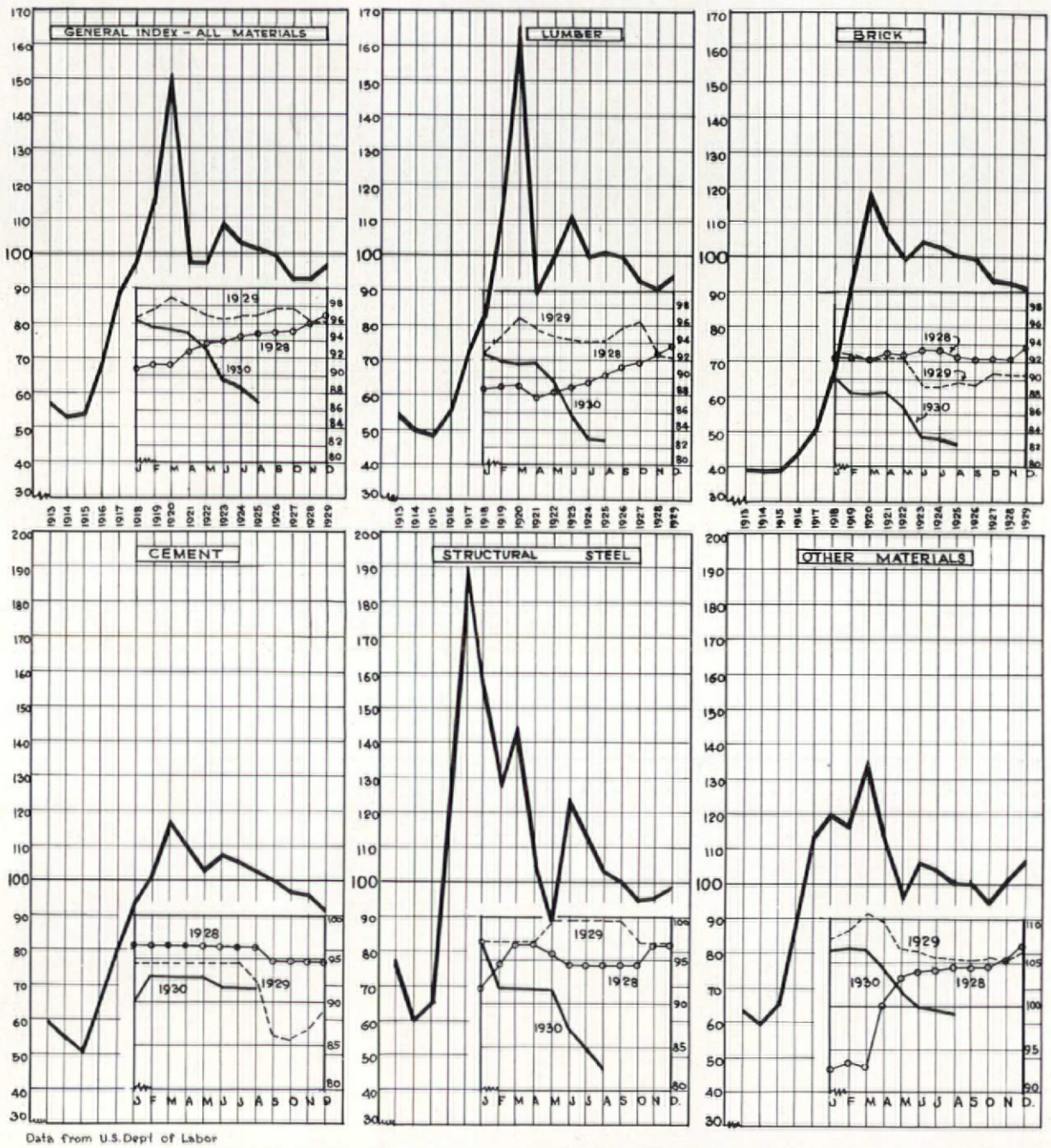
Non-residential building is normally a concomitant and not an important moving cause of large general construction activity. Nor is non-residential building a maker of business prosperity. It is rather a symptom or a result. This is especially true with respect to industrial building which usually accounts for about one-fourth of all non-residential building. In each of the four years of relatively large industrial activity since the war (1920, 1923, 1926 and 1929) this type of construction accounted for more than 25 per cent of the total, ranging from almost 42 per cent in the hectic year, 1920, down to 26½ per cent for 1929. In the recent depression years (1921, 1924, and 1927) industrial building ranged from 19½ per cent of the total in 1924 to only 17 per cent in 1921. It is here of large importance to note that new industrial construction has been, in the past, most often undertaken at or near the crest of large industrial activity, even in the face of our much vaunted improvement in industrial management.

To somewhat the same extent what is true for industrial building has held for commercial building, which usually accounts for more than one-third of all non-residential building. Commercial building, however, has been more readily activated by economic conditions and factors of obsolescence than has industrial building. Together these two branches of non-residential construction, for the years from 1919 through 1929, have accounted for about 60 per cent of all non-residential building; the remainder included educational buildings, hospitals and institutions, public buildings, religious and memorial, and social and recreational structures. Of these, educational buildings have been of most importance, and public buildings of least importance. New educational buildings undertaken in the last eleven years have represented 17 per cent of all non-residential building while public buildings have accounted for only about 3 per cent of the total.

(Continued on page 92, Advertising Section.)

WHOLESALE PRICES FOR BUILDING MATERIALS

(1926 monthly average=100)



Data from U.S. Dept of Labor

The general index of building material prices continued its downward trend through August and the early weeks of September while the general commodity index showed some signs of strength, almost entirely due to higher prices for farm products and foods and largely reflective of the effects of the recent drought. Despite these opposite trends prices for building materials were still on a higher plane than general prices, a condition which has lasted for almost two years, in the face of a drastic curtailment in building. There are evidences that discounts under existing union scales in the building trades have been accepted in certain localities; while increased efficiency on the part of building tradesmen, usually manifested in times of slack employment, has operated to produce measurably lower unit construction costs.

Can you say as much for the paint you specify?



BROADLAWNS, *Polk County Public Hospital, Des Moines, Ia.*

FROM BROADLAWNS comes praise for Barreled Sunlight's handsome finish, its washability, its durability.

Other institutions acknowledge Barreled Sunlight's help in providing a soft, agreeable light.

All users agree that its long-lasting whiteness and cleanliness materially reduce repainting.

Now Broadlawns, in common with numerous other users of Interior Barreled Sunlight, has turned to Outside Barreled Sunlight, for equally satisfactory results in exterior painting.

For full information on both Interior and Outside Barreled Sunlight, mail coupon. (See our catalog in Sweets.)

U. S. Gutta Percha Paint Co., 22 J Dudley Street, Providence, R. I. Branches or distributors in principal cities.

Broadlawns
POLK COUNTY PUBLIC HOSPITAL
TUBERCULOSIS DEPARTMENT
GENERAL DEPARTMENT
CONTAGIOUS DEPARTMENT
Des Moines, Iowa
May 1, 1929

U. S. Gutta Percha Paint Co.,
Providence, Rhode Island.

Gentlemen:-

Two and one-half years ago we painted the interior of the new Southwest wing of Broadlawns Tuberculosis Department of Broadlawns Polk County Public Hospital, with Barreled Sunlight.

The work was done by our own painter following the directions laid down by you. The result was a beautiful job of interior decoration and thus far the paint has stood up very well. In fact, when washed, and it is easy to wash, it retains all the appearance of all the appearance of new paint. We have also repainted the outside of to use Barreled Sunlight, which after one year seems to be in excellent condition.

BROADLAWNS HOSPITAL SAYS:

". . . a beautiful job of interior decoration . . . has stood up very well . . . when washed, and it is easy to wash, it retains all the appearance of new paint.

"We have also repainted the outside of the Tuberculosis Hospital with Outside Barreled Sunlight, which after one year seems to be in excellent condition."



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Reg. U. S. Pat. Off.

Easy to Tint

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U. S. GUTTA PERCHA PAINT CO.
22 J Dudley Street, Providence, R. I.

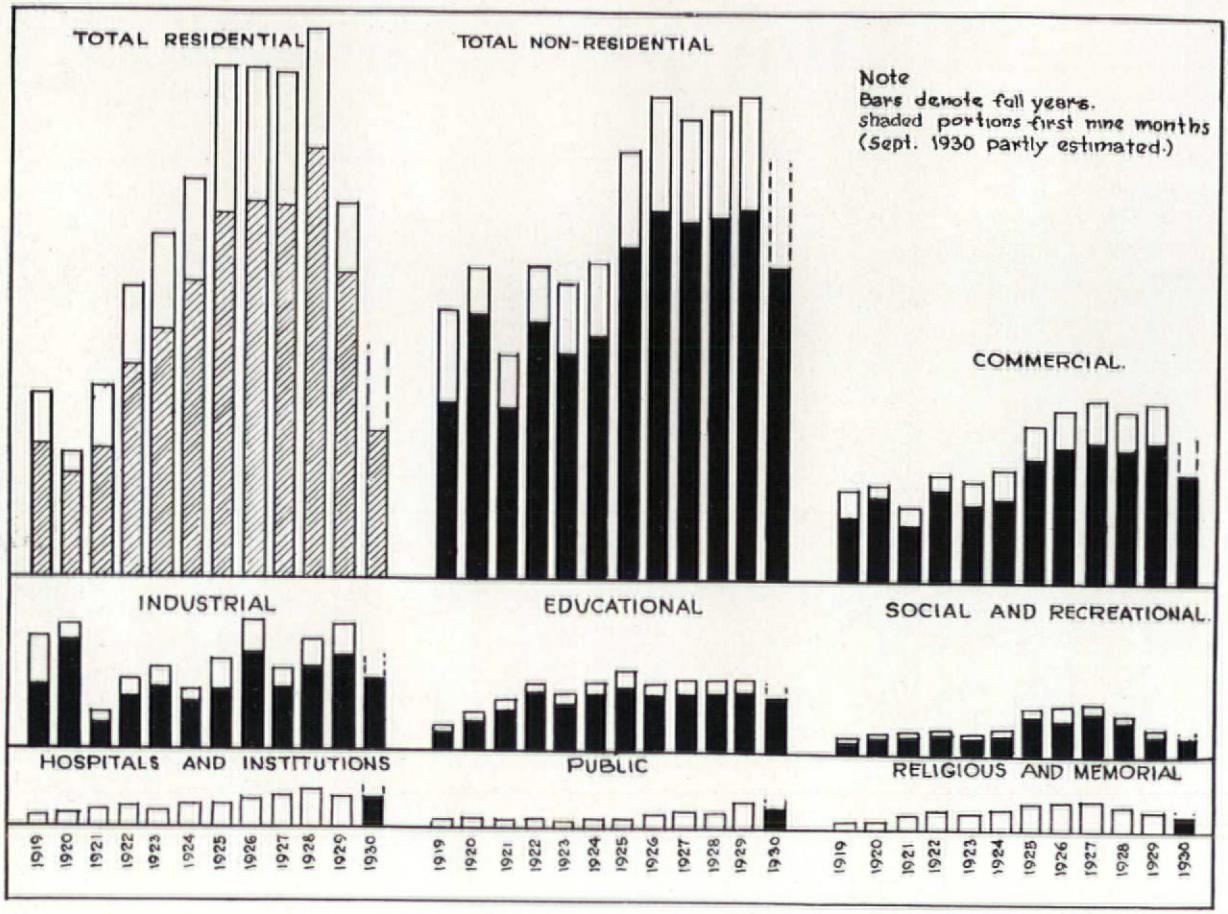
Please send me—
(Check) ☐ Your booklet "The Whitest White House in Town" (Outside Barreled Sunlight).
☐ Your booklet "Information for Architects" (Interior Barreled Sunlight).

Name_____

Street_____

City_____ State_____

NON-RESIDENTIAL BUILDING IN 27 NORTHEASTERN STATES, BY TYPES
(A Comparison with Residential Building)
1919 — 1930



(*Continued from page 359, Editorial Section.*)

From the record covering more than a decade it may be inferred that the construction of hospitals and institutions, religious and memorial buildings, and social and recreational buildings, which in the aggregate accounted for only 20 per cent of all non-residential building, has moved pretty much independent of purely economic considerations. Each type seems, however, to have had a cycle of its own which may have been due to activity largely occasioned by donations of various descriptions, the receipt of which, in some measure, has depended upon good business conditions. To a lesser degree, large activity in educational building, has rested also upon contributions though here the growing needs have been largely taken care of by governmental expenditures, either through taxes or bond issues, each reflective of existing general business conditions.

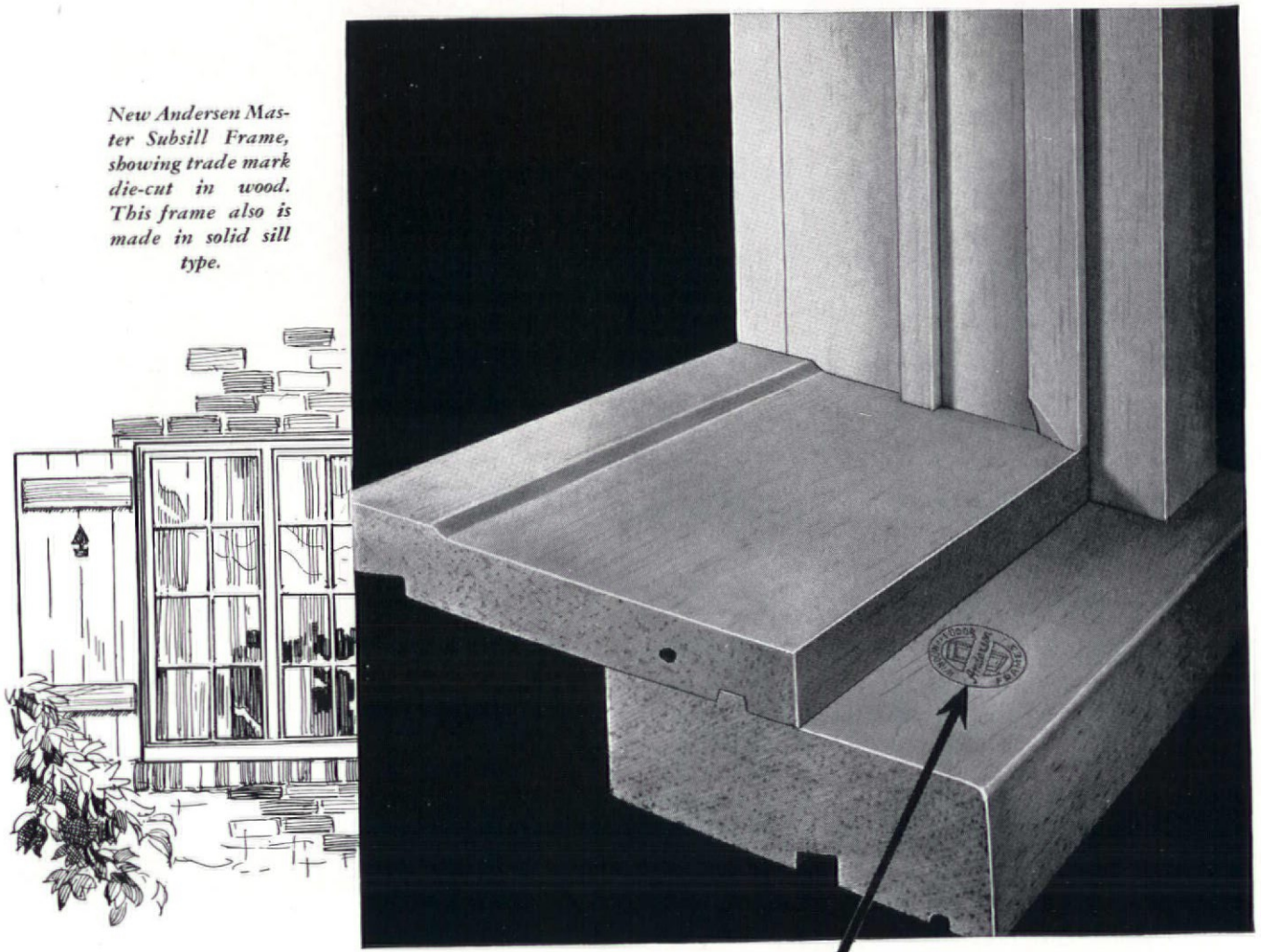
The volume of educational building undertaken in 1930 will approximate conditions of 1924; hospitals and institutions will almost surely exceed 1928, the last previous high year, the total for the first nine months practically equaling the entire year 1929; religious and memorial buildings should just about equal the 1929 total, itself lower than any previous year since 1923; while social and recreational buildings will likely fall to the 1924 level. It is of interest to note that these two latter types of building activity showed continuous expansion throughout the years 1919 to 1927 but for unimportant setbacks in 1923; that for the peak year 1927, each was about three times as large as in 1919; and that since 1927 each has moved downwards to a point where the relative declines are now substantial. Together these two types for the years 1926 and 1927 were more important than educational building and for 1927 about as important as industrial building.

For the first nine months of 1930 industrial building, on a total non-residential volume considerably below 1929, showed a ratio to total of 25 per cent—an experience essentially different from that of the three recent previous depression years. That there has been no appreciable change in the relative importance of industrial construction from what has been usual in periods of large general industrial activity may have been due to the same sort of stimulation here which has influenced the construction of public works and utilities, though this latter class of construction has perhaps been faced with a more genuine current demand than has either residential or non-residential building.

In last month's review it was pointed out that no real improvement in general construction may be expected unless revival takes place in residential building. It is very likely that the current depression in residential building will not deepen since the cumula-

Proud buildings deserve this new Frame with locked sill-joint

New Andersen Master Subsill Frame, showing trade mark die-cut in wood. This frame also is made in solid sill type.



TODAY the architect knows that the New Andersen Master Frame assures him custom frame quality plus a fine accuracy in construction which makes the frame adaptable to his special details.

That is why so many leading architects now specify "Andersen." » » » » » » » »

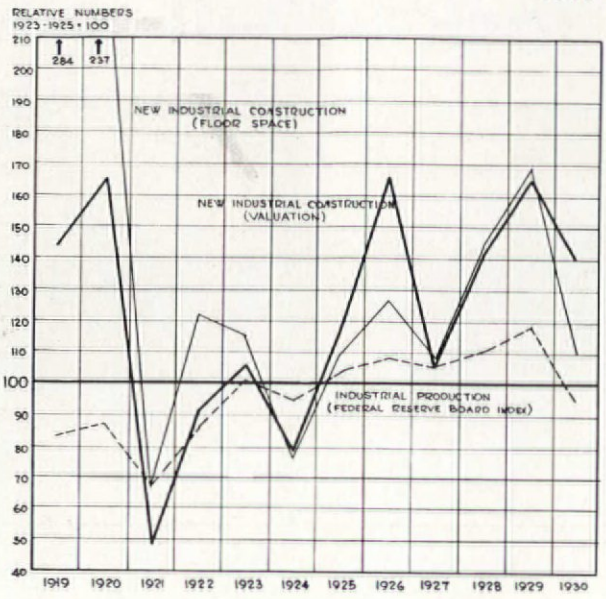
Note these features: genuine white pine, new locked sill joint, steep sill slope, adequate wide blind stop provision, guaranteed noiseless pulleys, a type and size for every need. More than 9,000,000 Andersen Frames are in service today, and the new Master Frame is the crowning achievement of 25 years of fine frame building. » » » » » » »

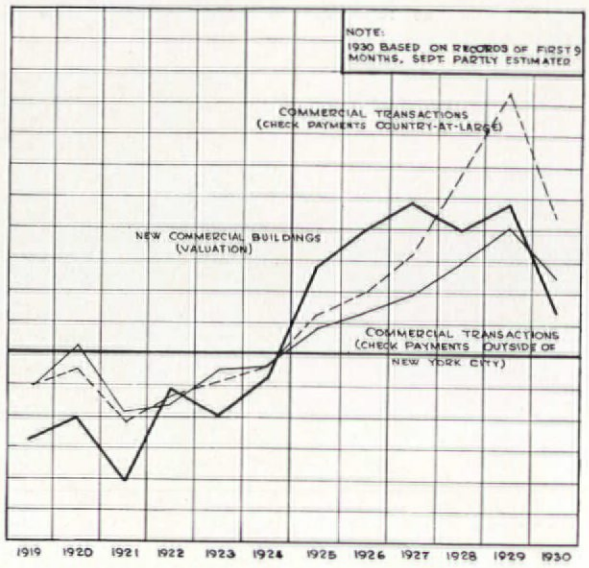
ANDERSEN FRAME CORPORATION, Bayport, Minnesota, has national distribution through 3,500 leading jobbers and dealers.

Andersen MASTER WINDOW and DOOR Andersen FRAMES **Frames**

FOR WEATHERTIGHT INSTALLATIONS—USE ANDERSEN SPECIFICATIONS

INDUSTRIAL AND COMMERCIAL BUILDING IN 27 NORTHEASTERN STATES
(A Comparison with Industrial and Commercial Activity)
1919 — 1930





tive relative declines from 1929 for the last three months ended August have been virtually stationary at something under 50 per cent below last year. For non-residential building there still seems to be further recession in sight in the light of the progressive relative declines recorded in the past three months; at the end of August non-residential building was 16 per cent behind the corresponding eight-month total ended August, 1929, at the end of July the decline was 13 per cent, while at mid-year non-residential building was off only 8 per cent. It is therefore highly probable that the remaining months of 1930 may show still further accumulated declines from 1929 as the year draws to a close because the more important types, commercial and industrial, remained at relatively high levels throughout the closing months of 1929. Residential building, on the other hand, is more likely to show better comparisons with 1929 from now on because of the drastic curtailment in this branch during the closing quarter of last year.

Commercial building, with unimportant deviations in 1923 and 1928 showed relatively the same general movements indicated for commercial transactions (check payments) throughout the period from 1919 to 1929, inclusive, except that for the first half of this period commercial building was on a lower plane than commercial transactions while in the latter half it was distinctly above. That there has been some commercial building in the past few years in excess of actual demand may, it seems, be reasonably inferred from this comparison, though, of course, factors of rising land values, obsolescence, and replacement have contributed largely to swell activity in commercial building. On a relative basis it would also appear that new industrial construction—at least during the five years ended 1929—has been expanded beyond demands of increased industrial activity as measured by the industrial production index of the Federal Reserve Board. In the period from 1921 through 1924 the two movements were in striking agreement, while in 1919 and 1920 industrial construction was far in excess of industrial output just as was the case in 1928 and 1929 and still seems to be the case for 1930.

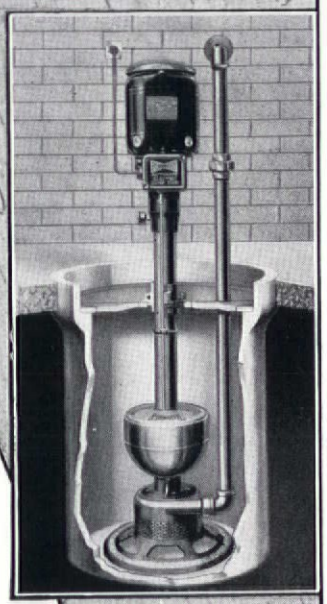
That wholesale prices for building materials continued downward throughout August and into September in the face of a rising general commodity level due almost entirely to stronger prices for farm products and foods emphasizes the current depression in the construction industries. The general index of building materials is still above the general commodity level. Reports have accumulated to indicate that actual wages under existing union scales in the building trades have been accepted in certain localities; while increased efficiency on the part of building artisans, usually noted in times of slack employment, has operated to lower unit construction costs.

It would appear unlikely that lowered building costs can alone provide a basis for revival in building activity. Space occupancy can no more be doubled by a halving of unit rental costs than can the consumption of meat be increased 100 per cent by a 50 per cent reduction in price, though the demand for food is, to be sure, somewhat more inelastic. Any genuine impetus must come from a closer gearing of supply to demand. In the field of residential building much of "the rough road" has already been traveled but in the principal branches of non-residential building it would appear from the record for 1930 that this movement has only lately begun. Though we speak of easy money, in reality money for the building of projects other than essential is virtually non-existent; especially is this true since lending institutions are known to be tending towards increased conservatism in their desires to appraise better the all-important relationship of supply and demand.

L. Seth Schnitman

when it RAINS and RAINS and RAINS





Penberthy Automatic Electric Sump Pump

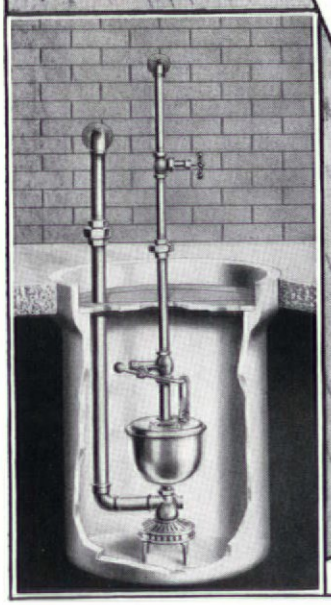
A Dry Basement

ALTHOUGH this home was built in a new subdivision that is without sewerage facilities, its owner will never be troubled with a wet basement, no matter how hard or how long it rains. The architect had it equipped with a Penberthy Pump that handles all basement seepage and drainage quickly and quietly.

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REVIEWS OF NEW BOOKS

ESTIMATING CONSTRUCTION COSTS. G. Underwood. *McGraw-Hill Co.*, N. Y., 1930; 620 pp. $6.00.
APPRAISERS AND ASSESSORS MANUAL. Prouty, Collins and Prouty. *McGraw-Hill Co.*, N. Y., 1930; 500 pp. $5.00.
NEW BUILDING ESTIMATORS' HANDBOOK. William Arthur. *Scientific Book Corp.*, N. Y., 1930; 1024 pp. $6.00.

These books are all put forth to make estimating easy. Quantity surveying methods and means of computing construction costs are indicated. The first volume contains good charts for rapidly estimating labor time charges on various methods of construction. The second book is primarily for taxation purposes, but offers assistance to the architect and engineer: various building types are analyzed. The third book is a revised edition of an older work.

INSPECTOR'S POCKET BOOK. Austin T. Byrne, revised by S. T. Goldsmith. 244 pp.

A handbook for building inspectors, printed in offset from typewritten sheets. Material is presented in condensed, outline form.

PERSPECTIVE PROJECTION. E. I. Freese. *Pencil Points Press*, N. Y., 1930; 43 pp.; 10 plates.

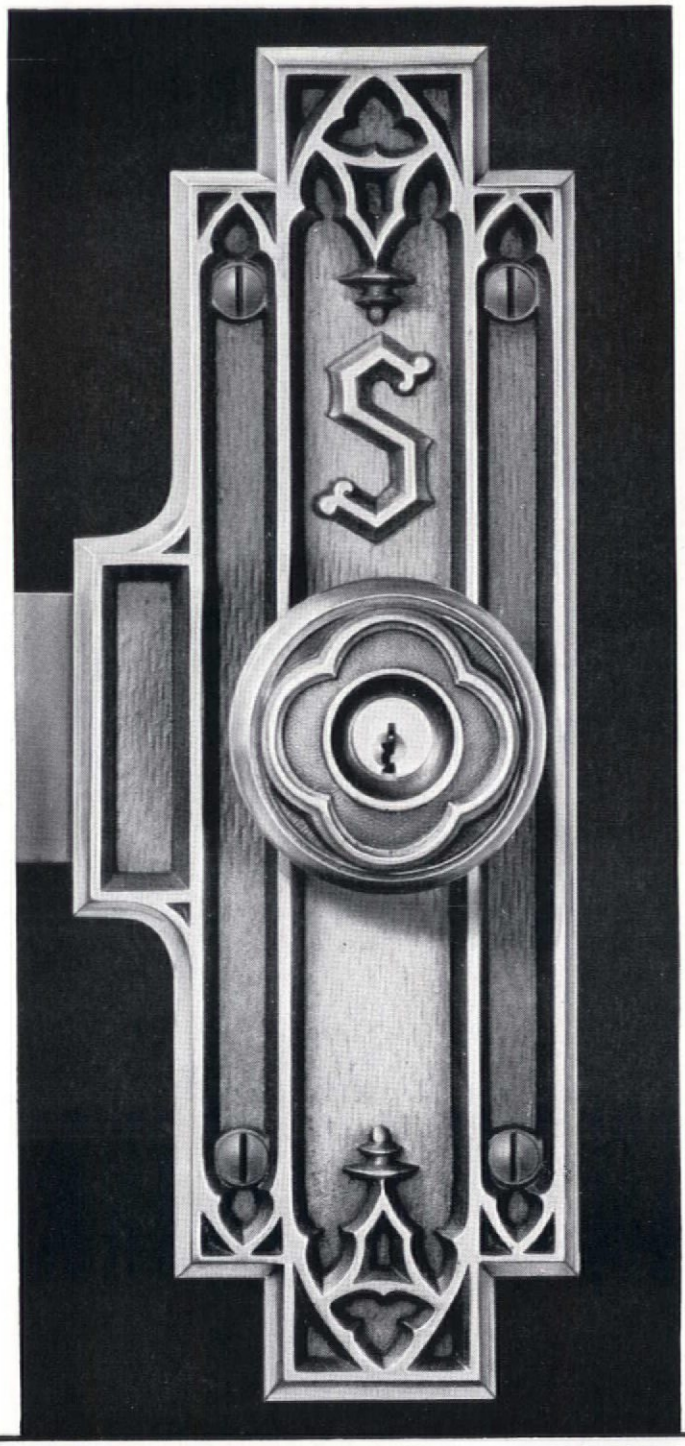
This is another of the large group of handbooks that indicate methods of drawing buildings and other objects with horizontal vanishing points. Perspective is not applied to vertical lines as in reality nor is isometric drawing, a far more convincing method of indication, given a single page of comment or illustration. However, simple methods of projection, minimizing drafting, are given ample discussion.

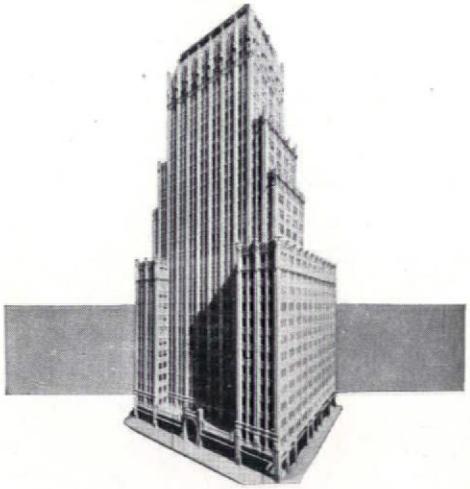
PROMOTING NEW HOTELS. W. I. Hamilton. *Harper and Brothers*, N. Y., 1930; 158 pp. $2.50.

This book discusses, first, *why* (under what conditions) a new hotel building may fail to succeed financially and for good of a community; and second, *how* to plan a community's hotel development along sound and stable lines. Topics such as, Launching the Typical Community Hotel Project, Securing Business and Common Pitfalls, are covered. The book is not exhaustive in its treatment but worthwhile condensed data are offered.

ENGLISH MONASTERIES IN THE MIDDLE AGES. R. Liddesdale Palmer. *Richard R. Smith Publishing House*, N. Y., 1930; 233 pp. $8.00.

A scholarly work presenting an outline of the origins and customs of the monastic orders. Cloisters, churches, extra-claustral buildings are illustrated and building methods discussed. Excellent as a historical document.





STERICK BUILDING, MEMPHIS

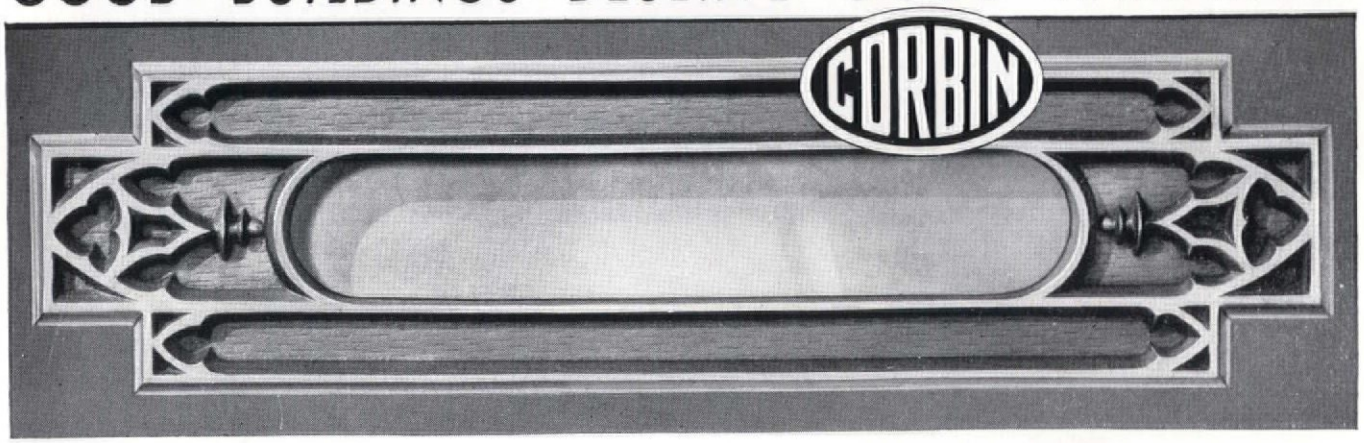
Architect: Wyatt C. Hedrick, Inc., Fort Worth, Texas.
Contractors: Bellows-Maclay Construction Company, Dallas, Texas.

2464 Corbin *Unit Locks* as used in corridor doors of Sterick Building, Memphis—tallest building in the South. *Trinity* design escutcheon bears letter "S", and this same letter appears on inside knobs. Finish, light statuary bronze. On the inside of the door plain bronze hardware used in light statuary bronze finish. The *Trinity* design letter drop is made especially for this building. Light statuary bronze finish with high lights polished.

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NOTES IN BRIEF

FAMOUS ARCHITECTS?

Who are the ten greatest American architects? This question has been raised by President Ricketts of Rensselaer Polytechnic Institute and referred to THE ARCHITECTURAL RECORD. Appropriate candidates for the profession's honor roll are sought so that their names may be inscribed on the stone spandrels of a building which is being erected at Troy, N. Y., to house the school of architecture.

The suggestion that the names should be limited to American architects came from Prof. Joseph Hudnut, Columbia University, in response to an inquiry from President Ricketts. His letter is reprinted herewith:

Dear Mr. Ricketts:

I have talked over the selection of the names of great architects, referred to in your letter, with several members of our staff. They are greatly interested. It seems to me that you ought to confine your selection to architects of the Renaissance, because the names of the greatest architects before that time are for the most part unknown. My suggestion is:

Brunelleschi	Peruzzi
Palladio	LeNotre
Mansart	Jones
Bramante	Sanmichele
Michelangelo	Wren
Gabriel	McKim

If I were in your place I would confine my selection to American architects. I think that that would be a unique and interesting thing to do, and it seems proper that American architects should, for once, be honored. Besides this would have a certain "publicity value": everyone would ask who these men were and how they happened to be selected from among the mass of architects. You would have a "Hall of Fame," like New York University. That, in turn, would have a good effect upon the status of the architectural profession: people would be surprised to learn that architects were of enough importance to have their names carved upon stone on the facade of a building. Did you know that in the entire world there is only one monument erected to the memory of an architect? 300,000 generals, 400,000 politicians, one architect.

Here are the ten greatest American architects:

Bulfinch	Goodhue
Renwick	Mills
Burnham	Sullivan
Jefferson	La Trobe
Richardson	McKim

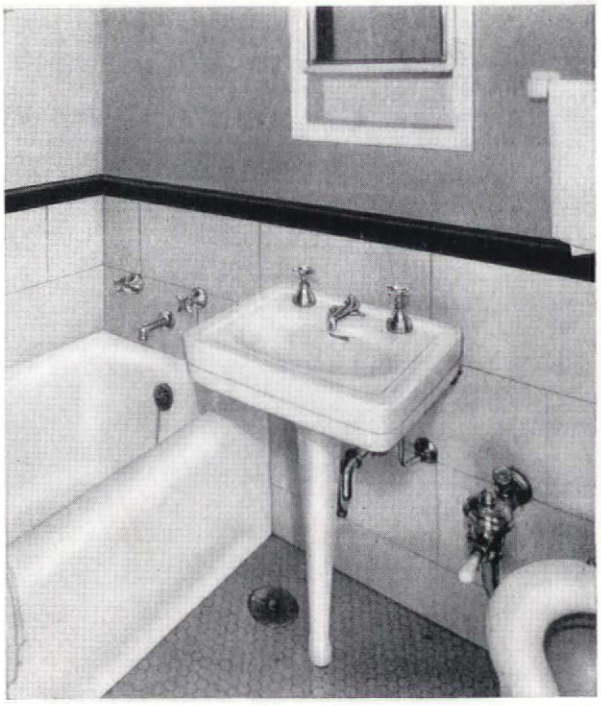
I have included only those who are dead (physically).

Yours very cordially,
Joseph Hudnut

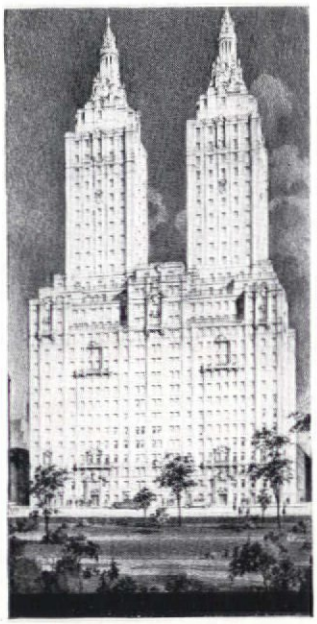
Criticisms, and additions to this list of architects are requested by President Ricketts in order to

(*Continued on page 100*)

WHAT MADE THESE NEW YORK APARTMENT HOUSES EASIER TO RENT?...INCLUDE 11,076 KOHLER FIXTURES AND FITTINGS IN YOUR ANSWER



A bathroom with STANDISH *vitreous china lavatory and* VICEROY *tub each having Kohler Dynamic fittings.*



The San Remo, apartment at 74th *and* 75th *Streets and Central Park West, New York City. Emery Roth, Architect. H. R. H. Construction Co., Builders. Sam Minskoff, Plumber. Dimock & Fink Company, Jobbers.*

Beresford Apartment House, 81st *and* 82nd *Streets and Central Park West, New York City. Emery Roth, Architect. H. R. H. Construction Co., Builders. Frank B. Lassette, Plumber. E. F. Keating Co., Jobbers.*

Apartment at 12 *West* 81st *Street, New York City. Emery Roth, Architect. H. R. H. Construction Co., Builders. Sam Minskoff, Plumber. Dimock & Fink Company, Jobbers.*

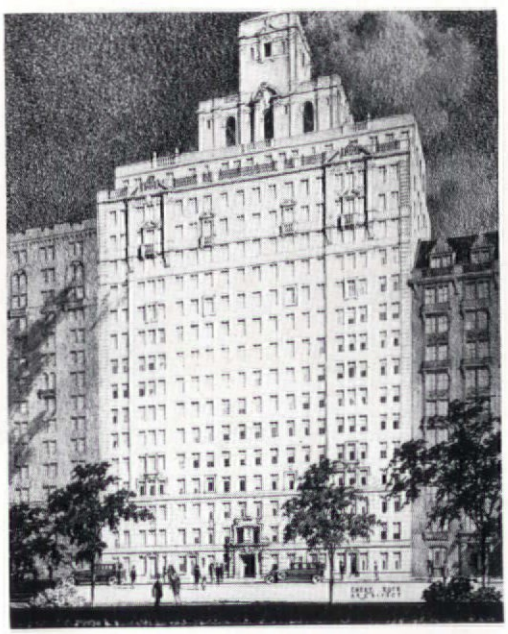
IN NEW YORK or any other place, the bathroom is the most important room in the house. You know it. Home-hunters know it. They look at the bathroom first. They expect, rightly, clear pipes, efficient faucets and drains. They want tubs of good design; lavatories, closets and fittings soundly constructed and in correct taste. They ask for —and get—colors that are clear and uniform.

Architects recognize the trend. Generally, they follow the one wise practice: Specify the kind of fixtures and fittings that good taste, good business instruct. And in the best and finest places going up today—apartment houses never before equaled for size, luxury, and elegance of appointment—all-Kohler installations are increasingly evident. Here, for example, are three recent New York apartments, completely Kohler-equipped, with a total of 11,076 Kohler fixtures and fittings!

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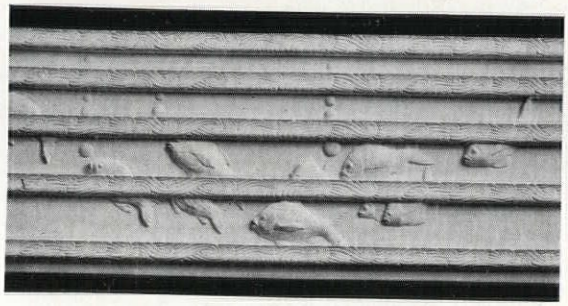




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determine the consensus of opinion in the architectural profession. Suggestions may be sent either to the editorial department of THE ARCHITECTURAL RECORD or to Prof. Ralph G. Gulley, dean, Rensselaer School of Architecture, Troy, New York.

ANNOUNCEMENTS

PHILIP H. JOHNSON, architect and engineer, announces the removal of his offices from the Widener Building to the twenty-second floor of the Architects Building, Seventeenth Street at Sansom, Philadelphia.

G. MASSERA AND A. V. DUPONT have recently arrived from France to practice architecture in this country. Their temporary address is Nemours, Wilmington, Delaware.

SAMUEL MARVIN SMITH, architect, announces the removal of his offices to 615 Shoreham Building, 15th and H Streets, N. W., Washington, D. C.

GEORGE R. CALLIS, JR., architect, announces the removal of his offices from the eighteenth and nineteenth floors of the Hearst Tower, Baltimore, to his new offices and studio at 13 Melvin Avenue, Catonsville, Maryland, and requests that manufacturers accordingly change their mailing lists.

ERNEST HOWARD YARDLEY, architect, 112 South 16th Street, Philadelphia, wishes to announce that he now has as associates J. Layng Mills of New York and Leon J. Meyung.

GEORGE BURDETT FORD

George Burdett Ford, architect and city planner, who died on August 15 was born in 1879 at Clinton, Mass. Mr. Ford was graduated from Harvard University in 1899 and afterward took up engineering and architecture at the Massachusetts Institute of Technology and at L'Ecole des Beaux Arts, Paris.

Notable in Mr. Ford's work was his service as consultant to the Committee on City Planning of the Board of Estimate and Apportionment of New York City and to the Commission on Building Districts and Restrictions. From his work on the latter commission emerged largely the present New York zoning and height regulations. Mr. Ford had been an advisor to the Regional Plan of New York and Its Environs since its inception and was one of a group of planners who made the preliminary study of the region and prepared maps dealing with land uses and means of traffic.

Among the cities he helped to plan were Trenton, Newark, Jersey City, Passaic, Elizabeth, Perth Amboy and East Orange, N. J.; Port Chester, New Rochelle, Mamaroneck, Ossining, Tarrytown, Scarsdale, Mount Kisco and Glen Cove, N. Y.; New Haven, Conn.; Springfield and Worcester, Mass.; Wilmington, Del.; Chester, Pa.; Cincinnati and Dayton, Ohio; Louisville and Lexington, Ky.; Richmond and Norfolk, Va., and Charleston, S. C.

(Continued on page 102)



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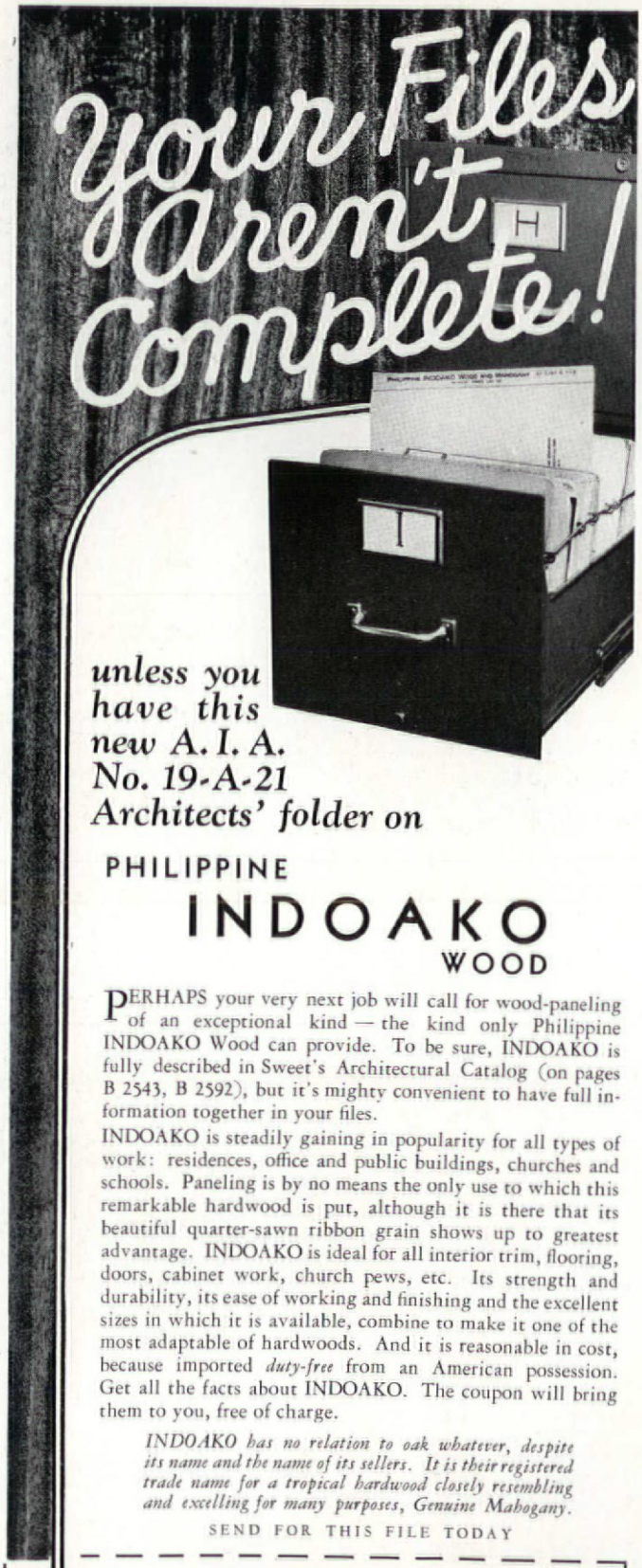
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FLAT ROOFS AND DOCTORS

"Although many of us have collaborated with doctors in the planning of hospitals, we have hardly realized yet the importance of their point of view in the arrangement of houses. Lens has a genuine complaint, for he speaks from a personal experience. He lives on the northern edge of St. John's Wood, in an oldish house with a pitched roof, except for one small part 13 ft. square, which has a flat roof. To the latter, access has been made, and for a few pounds Lens has acquired 'a new living room, a new toy, a sleeping place, a solarium and an observatory.' This experience leads him to the declaration, 'All these pitched roofs . . . represent stupid waste of . . . civic area.'

"We have much sympathy with the doctor's point of view. We will summarize the objections to it; as shortly as possible because to do so will seem to our modernist friends like crossing the *t* and dotting the *i* of obscurantism. A flat roof with a suitable surface for walking on, and protected by a parapet, is dearer than a pitched roof: an airspace between the ceiling and the roof gives insulation from heat in summer and cold in winter; it follows there is less risk of condensation; the tiles or slates covering a pitched roof are rather more reliable than the coverings of a flat roof; the elimination of pitched roofs will cause a wide dislocation of employment. But our main difficulty is with our clients, whom Lens would like us to persuade to his point of view. For our clients usually like sloping roofs, but entirely for sentimental reasons.

"Can we blame our clients for preferring the cheerfulness and assurance of pitched roofs to the dubious delights of sun-bathing with flies, or snoring to thunder; or for holding that any number of Bathshebas fail to banish the impression that German housing schemes look dull?

"But in so far as Lens considers there should be closer relations between his profession and ours, both our clients and ourselves agree. We are a nervous generation and health seems to us the prime necessity; just as the soldier moulded the buildings of the Middle Ages, and the gentleman those of the Renaissance, so the doctor's influence is predominant today. Every house-building client must be asked if he wants a solarium, either on the roof or as a recessed veranda or loggia, and even though we retain our slopes over the main blocks, we can form a flat roof in a subsidiary position and make the best of both worlds. . . ."

—From *The Architects' Journal*
August, 1930

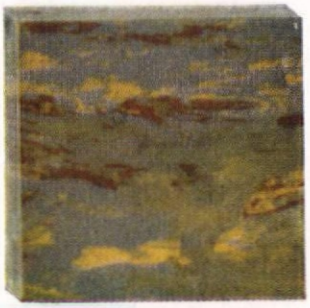
A CORRECTION

In the TECHNICAL NEWS section of the September, 1930 issue, the captions under the Savarin Restaurant, Graybar Building, New York City and the Savarin Restaurant, New York Life Insurance Building, should have been credited to The John Van Range Company.

We wish to add that technical information was obtained from *Planning Restaurants That Make Money*, published by the John Van Range Company.

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Black and Cream



Walnut Paisley
Walnut with veinings of
Gold and Cream



O.S.
Cream with veining of
Black



Black White
Black with veining of
White



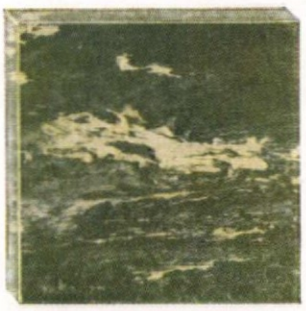
Brown Green Paisley
Brown with veinings of
Sea Green and Black



White Sea Green
White with veining of
Sea Green



Black Red
Black with veining of
Dark Red



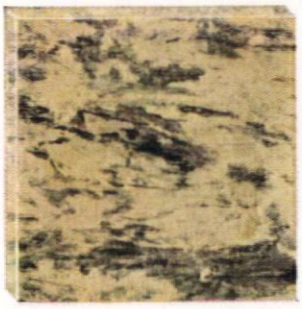
Sea Green White
Sea Green with veining
of White



Slate Red Paisley
Slate with veinings of
Dark Red and Cream



Brown Black
Brown with veining of
Black



Buff Black
Buff with veining of
Black



Dark Red



Napoleon Grey
Grey with veinings of
Pink, Cream and Black

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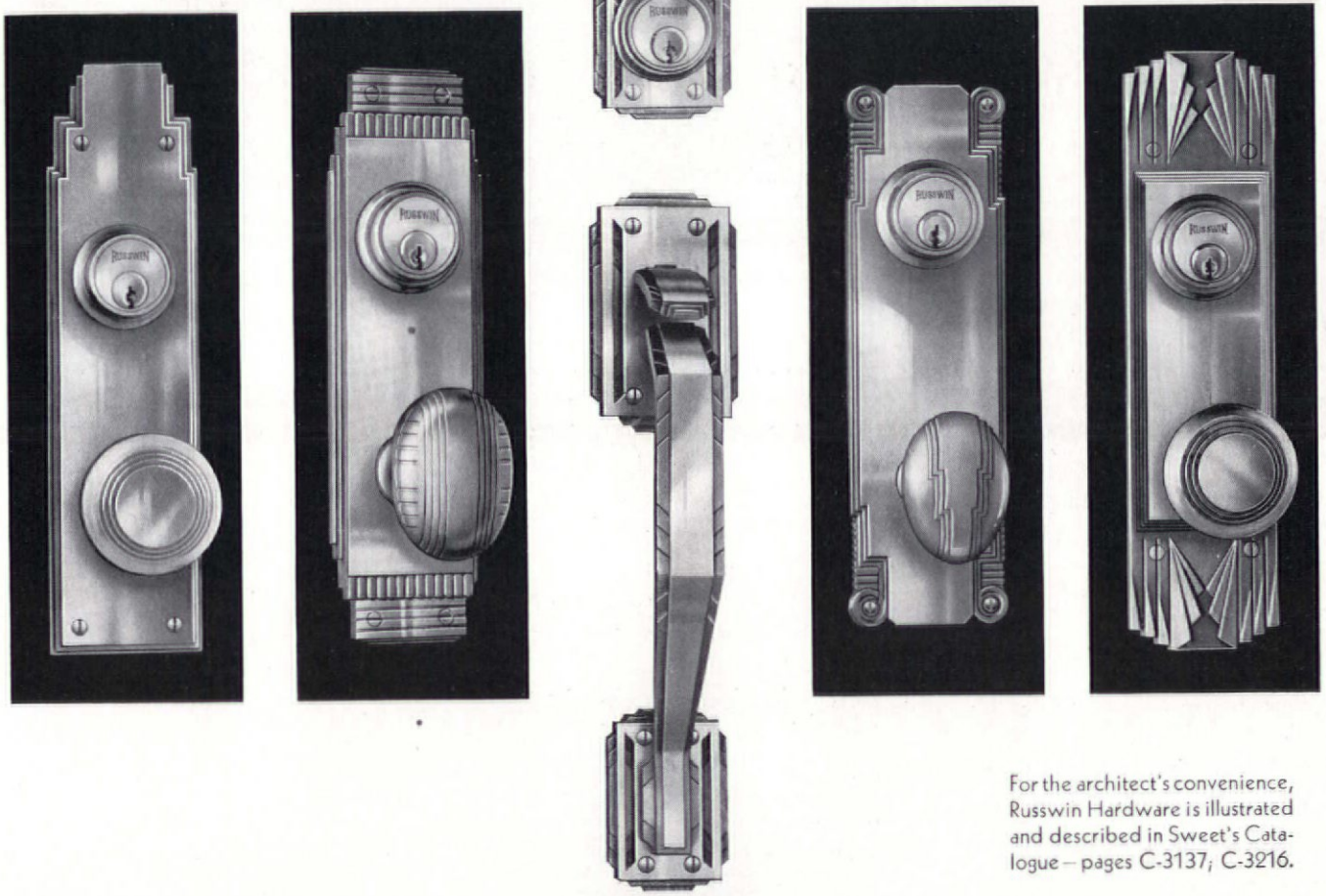
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MODERNISTIC creations in HARDWARE by RUSSWIN

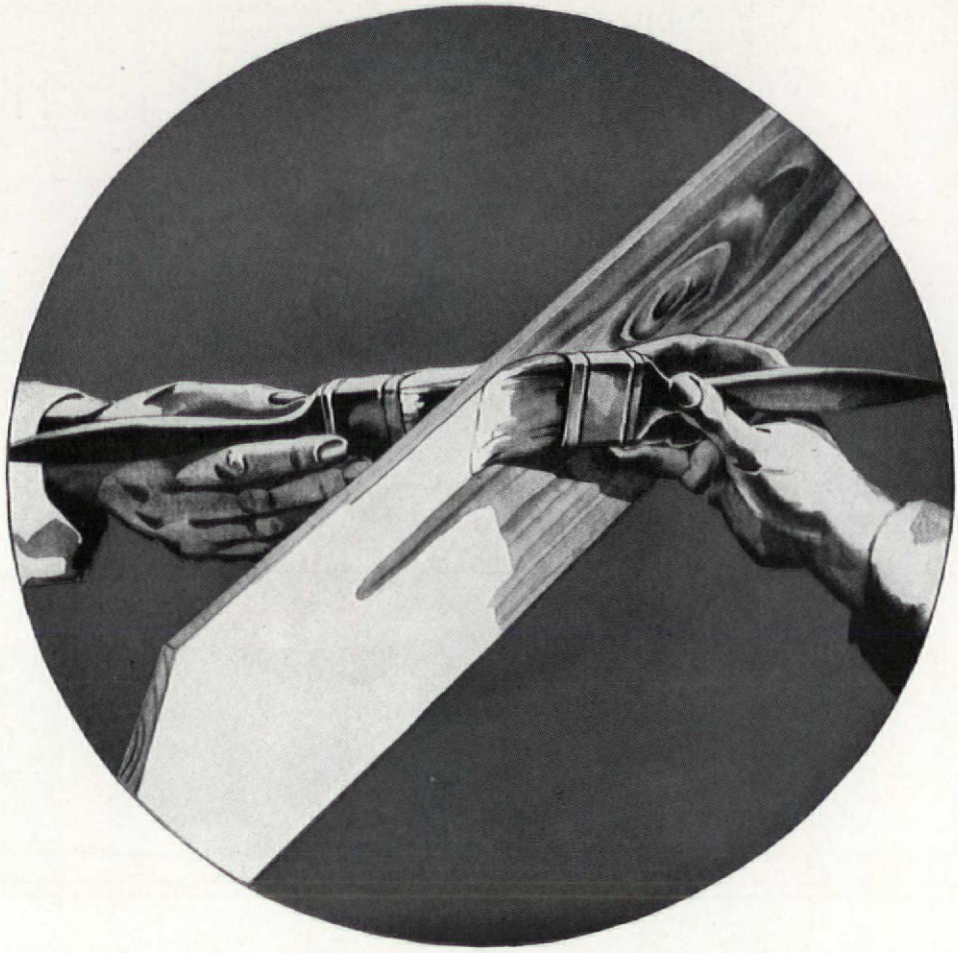
Five exclusive Modernistic designs by Russwin are shown on this page. The illustrations are about one third size. Russwin, acknowledged originator of distinctive Modernistic hardware of the finest metals (Bronze or Brass), is constantly adding to its line, thus keeping pace with all that is new and authentic in architectural thought and design. Russell & Erwin Manufacturing Company (The American Hardware Corporation, Successor), New Britain, Connecticut —New York, Chicago, London.



For the architect's convenience, Russwin Hardware is illustrated and described in Sweet's Catalogue — pages C-3137; C-3216.

R&E SINCE 1839
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Aluminum Company of America does not sell paint. But aluminum paint made with satisfactory vehicles and Alcoa Albron Powder may be purchased from most reputable paint manufacturers, jobbers and dealers. Be sure the pigment portion is Alcoa Albron and is so designated.

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POWDER FOR
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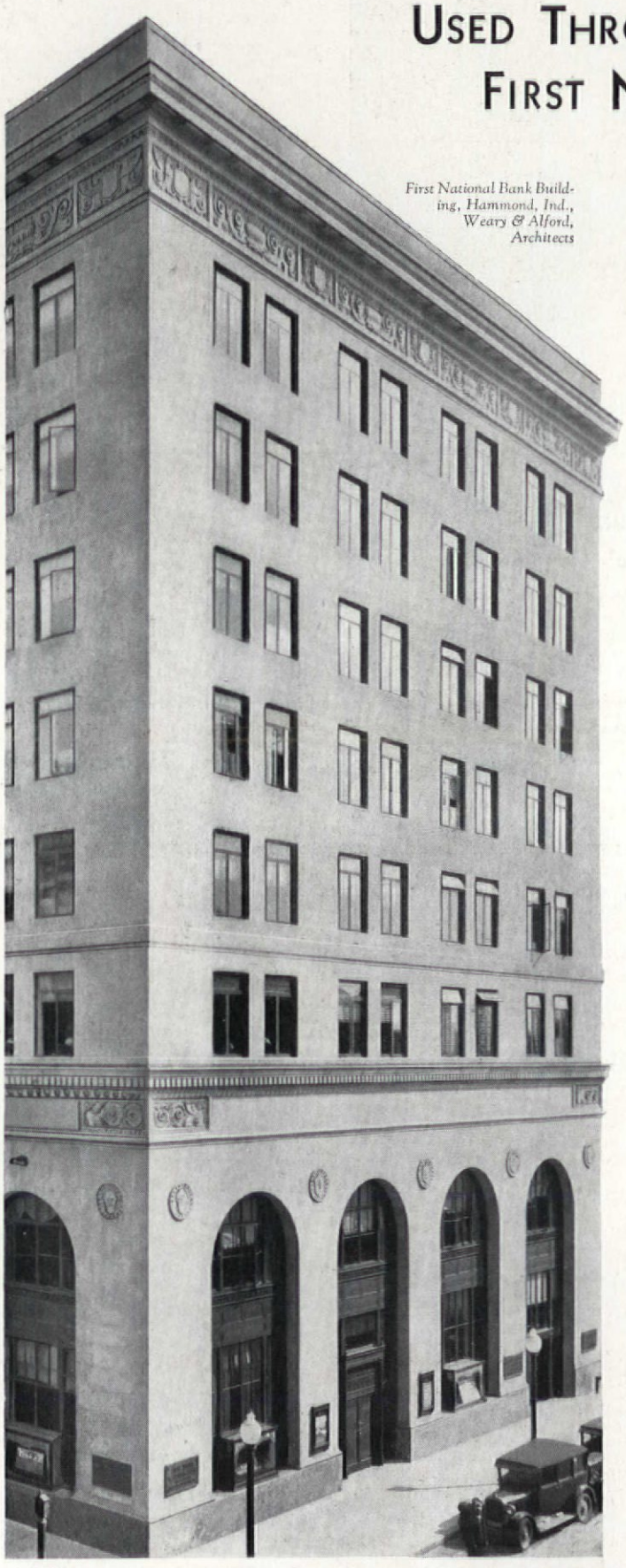
A monument which could be achieved only in TERRA COTTA which affords opportunity to employ color texture and monumental sculpture.

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230 PARK AVENUE NEW YORK

Maricopa Co. Court House, Phoenix City Hall, Phoenix, Arizona. Edward F. Nield—Rescher & Mahoney, *Associated Architects.*

CRITTALL CASEMENTS

USED THROUGHOUT THE HAMMOND FIRST NATIONAL BANK BUILDING



First National Bank Building, Hammond, Ind., Weary & Alford, Architects

AS AN example of the effective use of Crittall Casements in a modern office building, the home of the First National Bank in Hammond, Indiana, is extremely interesting from an architectural standpoint. Not only have Crittall Casements been employed in beautifying the ornamental portions—but also they have been installed *throughout the entire building!*

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Refer to our complete catalog in Sweet's—pages A1131 to A1200—for details and specifications.

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STANWIN CASEMENTS
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WATERPROOFING AND PORTLAND CEMENT DELIVERED IN ONE BAG



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DIEBOLD-LAKE ERIE TEAR GAS BY DAY...

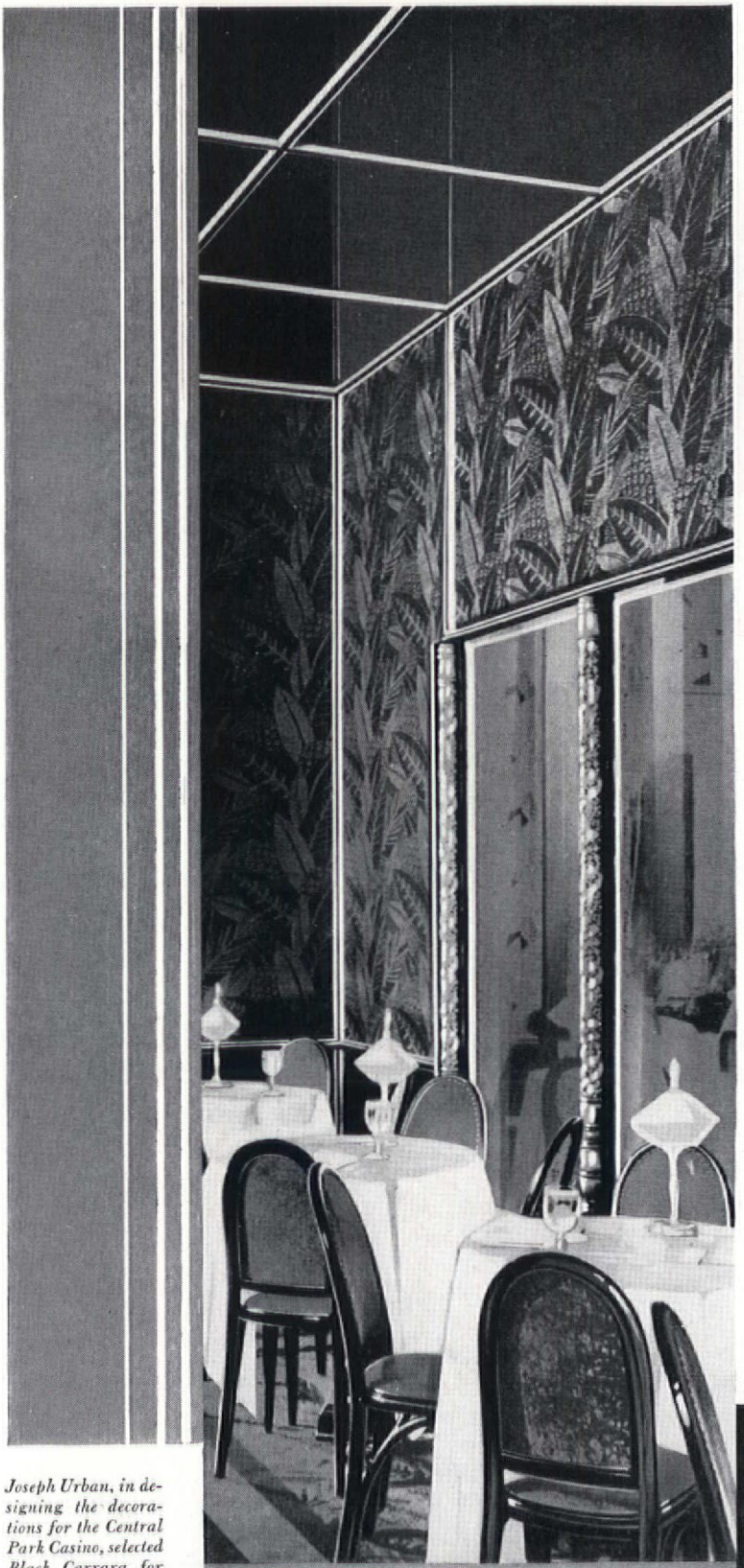
A DIEBOLD BANK VAULT BY NIGHT

DIEBOLD VAULTS close banks to bandits at night—now Diebold-Lake Erie Tear Gas disarms bandits in broad daylight! At night crooks despair of opening a Diebold Vault Door when it is closed and fully checked. They have thrown away their electric arcs and their nitroglycerin, and use firearms instead. Now they are daylight bandits—dangerous felllows, that take a bank unawares while its vaults are open and its valuables unlocked. Armed to the teeth, they're a menace to *life* as well as property. ★ ★ Diebold has turned its attention to *bank protection even while the Diebold Vault Door is open.* Today, with harmless but effective tear gas, we protect banks, their property, employees, and patrons against bandits. This tear gas renders the bandit helpless instantly, and keeps him that way until the police arrive. ★ ★ The Diebold-Lake Erie Tear Gas installation is so arranged that it will completely cover the room in a few seconds. Any teller can set it off—even with his hands above his head. The bandit is captured then and there. No one is hurt. No money is lost. ★ ★ We now present 24-hour bank protection—Diebold-Lake Erie Tear Gas by day—Diebold Bank Vault by night. Write for booklet on tear gas installation and full particulars.

Diebold

Safe and Lock Company, Canton, Ohio

Seventy Years of Bank Service



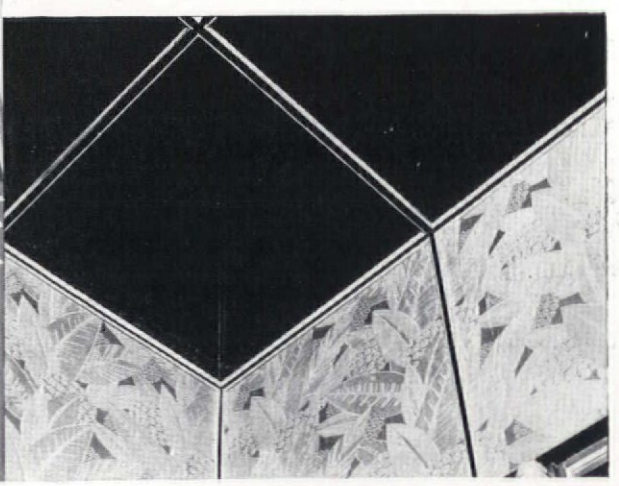
Joseph Urban, in designing the decorations for the Central Park Casino, selected Black Carrara for the low ceilings of this brilliant room.

CEILINGS THAT SEEM TO DISAPPEAR!

THE lines of the low-walled room go on and up, disappearing in mysterious, subdued reflections. Mirror-like, polished, gleaming, these ceilings in the Central Park Casino snare and hold a glowing beauty in their depths. Such ceilings are new, fascinating.

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Whether your specifications can best be met by Black Carrara, White Carrara, or white, rippled-surfaced Frostex, you will find the same high qualities in each. All three types of Carrara may be obtained in convenient size slabs, handled and installed like marble. For complete information on this structural material of new beauty, inquire of our branch warehouse in your city. Or write the Pittsburgh Plate Glass Company, Carrara Department, Grant Building, Pittsburgh, Pa.

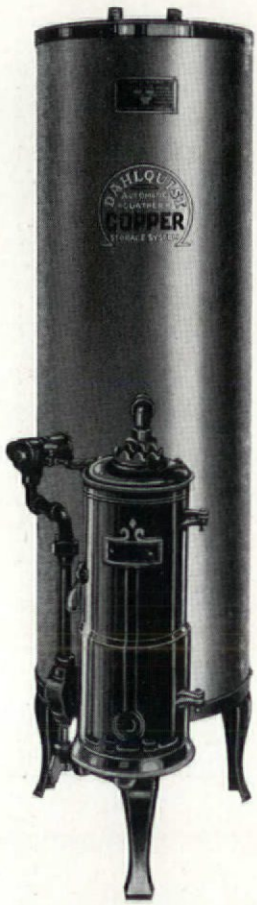


CARRARA

Modern Structural Glass

The New Dahlquist Turbo-Aquatherm

(U. S. Patent No. 1,762,215 June 10, 1930)



Automatic Gas Unit with Side Arm

Experts have long recognized that the ordinary hot water boiler serves as an efficient sediment trap. This is due to the fact that it contains a relatively large volume of quiet water and hence any sediment or insoluble matter which normally remains in suspension in the water lines gradually sinks to the bottom of the boiler.

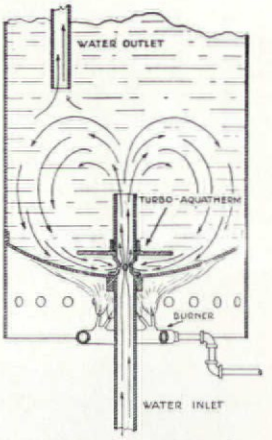
This continual accumulation of sediment is one of the greatest enemies of the efficient satisfactory operation of the hot water boiler. If allowed to accumulate long enough it will cause surges of rusty muddy water in the hot water line and in the case of underfired or automatic storage units, it forms an insulating blanket on the bottom between the water and the metal itself which is the greatest cause of burnouts. Furthermore hot water accumulated in the ordinary boiler becomes stagnant and unsuitable for domestic purposes.

The TURBO-AQUATHERM

(U. S. Patent . 1,762,215 June 10, 1930)

In order to absolutely prevent the accumulation of sediment which is the great enemy of the efficiency and life of hot water boilers, Theodore W. Dahlquist has invented a device called the TURBO-AQUATHERM which takes advantage of the velocity of the incoming cold water to create a suction and a whirl which constantly sweeps and scours the bottom of the boiler carrying every particle of foreign matter out of the system. No sediment can ever accumulate in the Dahlquist TURBO-AQUATHERM Copper Boiler and the water is always as fresh as that in the cold water lines and may be safely used for cooking as well as for other household purposes. Furthermore the danger of burnouts in automatic storage and underfired systems is eliminated and the thermal efficiency of the boiler is greatly increased. The accompanying sketch shows clearly the action of the TURBO-AQUATHERM which may be had with little additional cost on all Dahlquist range boilers and automatic storage.

Write now for full particulars regarding this revolutionary improvement in hot water boilers.



Arrows show action of water when drawn thru TURBO-AQUATHERM scouring bottom of boiler and preventing any accumulation of sediment



Super-aqua-therm Gas Underfire

Automatic Electric Unit

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If an original design is not required, our catalogue offers a wide selection of artistic designs in iron, bronze and aluminum. Sweet's Catalogue, Section D, pages 5334 to 5344 also illustrates over two-hundred styles of Smyser-Royer exterior fixtures.

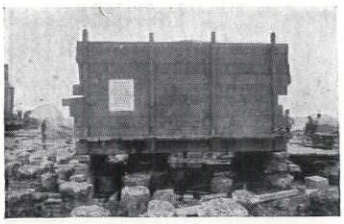
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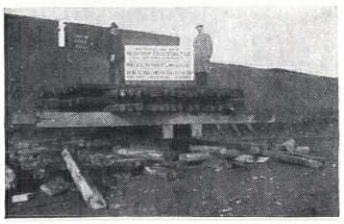
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as shown by this slice, 17" in diameter and 3" thick, cut from a typical MacARTHUR Compressed Concrete Pile driven for the Milwaukee County Court House, Milwaukee, Wisc., *A. Randolph Ross, Architect.*

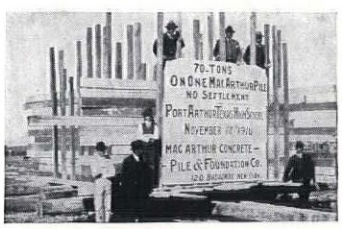




1929 — No settlement with 60 tons on 1 MacArthur Pile. Jersey Central Power & Light Co., So. Amboy, N. J., *J. J. Hyndes, Cons. Supt.*



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1916 — This 70 ton test made on 1 MacArthur Pile at Port Arthur, Texas. No settlement. *Wm. B. Ittner & Assoc., St. Louis, Archts. and Engrs.*



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GOOD concrete, compressed by the MacARTHUR method, insures piles of greater bearing capacity. The rough concrete is intimately bonded with surrounding soil.

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J&L LIGHT WEIGHT CHANNELS

are installed as stair stringers in Pittsburgh's Cathedral of Learning

J&L STEEL

WHEN the Cathedral of Learning, magnificent new edifice of the University of Pittsburgh, was planned several years ago, it was decided to make it an outstanding example of modern building design and to employ in the construction of it only the finest building materials. This plan has been carried out in every detail and includes the installation of 10 inch J & L Light Weight Rolled Steel Channels as stringers in all stairways.

The advantages of J & L Light Weight Channels—the saving in weight, ease of fabrication and installation, and neat appearance of the finished job—appeal to architects and engineers for all types of stair construction, from small installations in homes to the large stairways in buildings like the Cathedral of Learning.



Stairway construction in the Cathedral of Learning, Pittsburgh, Pa.

Architect:
Charles Z. Klauder, Philadelphia.

Contractor:
Stone & Webster Engineering Corp.

Fabricator of Stairs:
The Sommerville Co., Pittsburgh

(Note the neat fitting mitres and the pleasing application of the decorative molding to the J & L Light Weight Channel Stringers.)

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10"— 8.0 lbs.
10"— 8.8 lbs.
12"—10.6 lbs.

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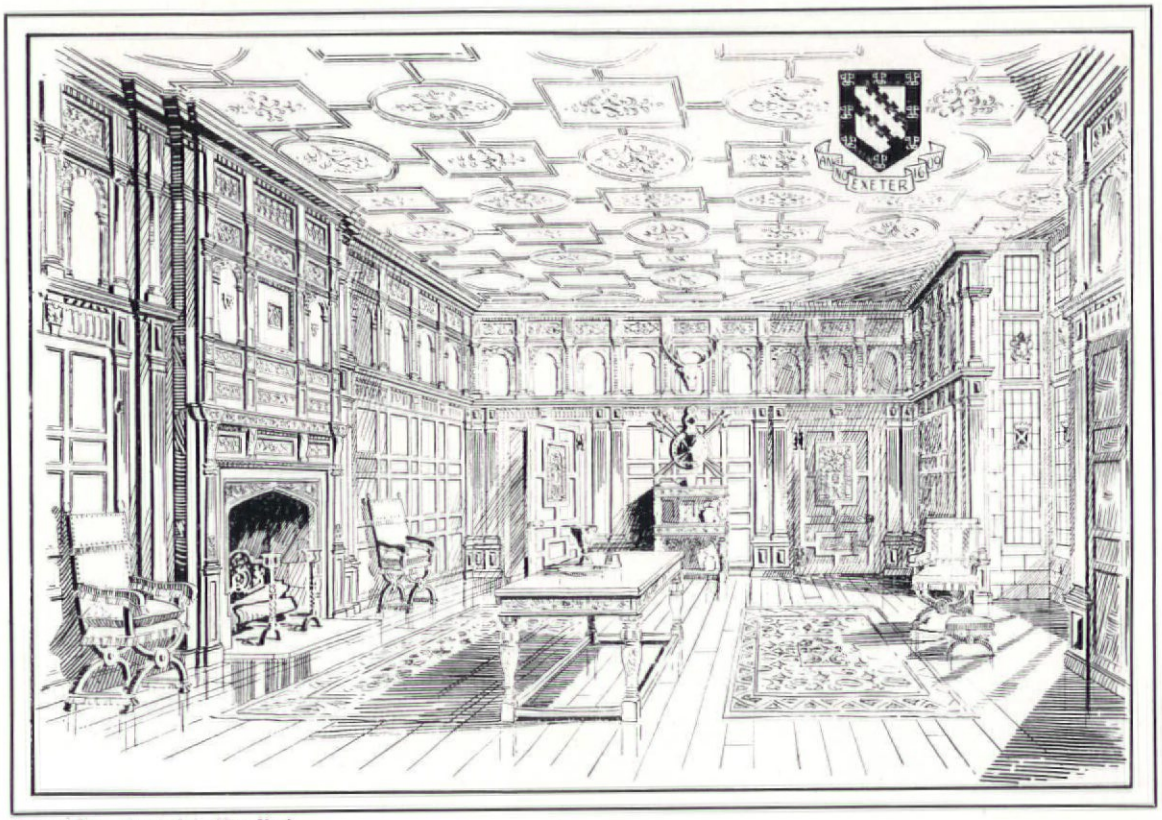
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An ELIZABETHAN ROOM *from* OXFORD



Orignal Room in stock in New York

IN THE YEAR 1316 the Lord High Treasurer to Edward II, Walter de Stapledon, founded the Hall which was later to be known as Exeter College; and it is from this richly historical building the splendid Elizabethan Room depicted above was removed some seventy five years ago.

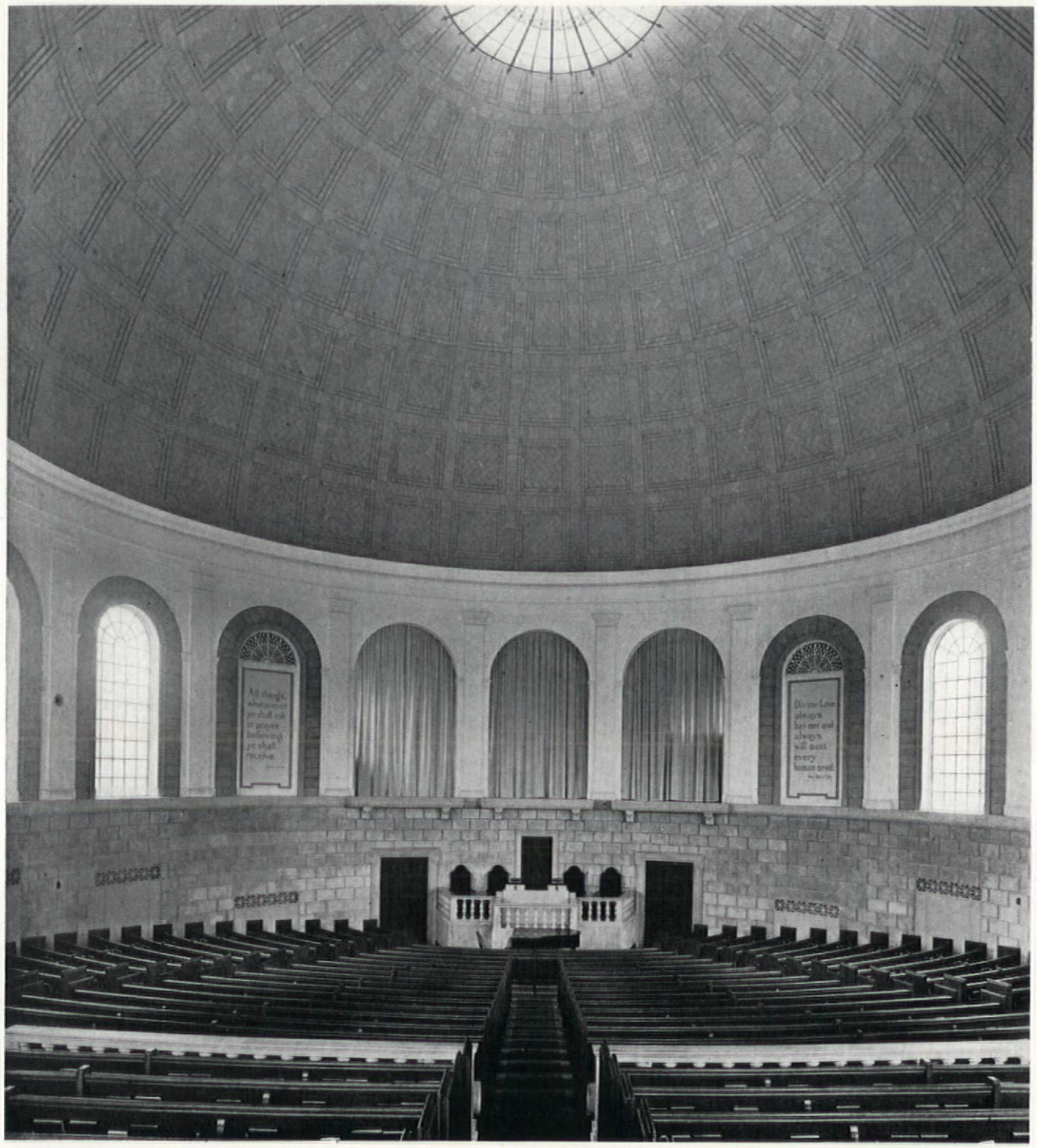
It is a long story, the chequered career of the panelling after its dispersal and gradual collection by Mr. Roberson till today, when it stands one of the very finest examples of Elizabethan oak panelling in this country.

Mr. Roberson wishes to remind his architect clients that he has twelve antique panelled rooms of various periods on exhibition in New York and is pleased to place the resources of his studio at their disposal to show how any of these antique rooms or modern reproductions of the same can be adapted to their particular needs.

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Banish *Thirsty Air* . . . in the homes you plan

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You wouldn't think of living in a house without temperature-comfort. You wouldn't think of planning one for a client without modern heating. Yet, because there has heretofore been no economical simple way of providing humidity-comfort and humidity-health, you've lived in, and planned houses for your clients, without provision for correct humidity.

Now there is a way . . . the Doherty-Brehm Humidifier. It completely solves a many-years' search of engineers for a way to banish Thirsty Air. Automatically, silently, constantly, it supplies the correct amount of moisture to the air in any home with radiator heat—steam, hot water, or vapor.

Into hundreds of fine homes, it is bringing the breath of spring-time all through months of winter. It is giving fresh, moist air in every room, comfort and healthfulness throughout the house. Architects throughout the country are specifying it for living comfort in the homes they plan.

To provide this comfortable and healthful atmosphere, the Doherty-Brehm Humidifier evaporates astonishing quantities of water—20 to 100 gallons a day! There is a size and type for every home heated with radiators. *One of these humidifying radiators centrally located will properly moisten the air of an entire house or an individual apartment.*

Both a heating and a humidifying unit, the Doherty-Brehm Humidifier is installed in the heating system like an ordinary radiator and needs no more attention. No pans to fill; no belts, fans, or motors; no noise, steam, or odor. Enclosed in a charming console of wood or metal in keeping with furnishings of finest homes. Or it can be recessed in a wall.



$150 to $225, f. o. b. factory, installation extra, in beautiful metal cabinet. Supplied also for recessing in wall. Types and sizes for any building heated by steam, hot water, or vapor. Water fed in at the top spreads out over horizontal first section, the overflow going down and spreading out over the second section, and so on until the last section is reached.

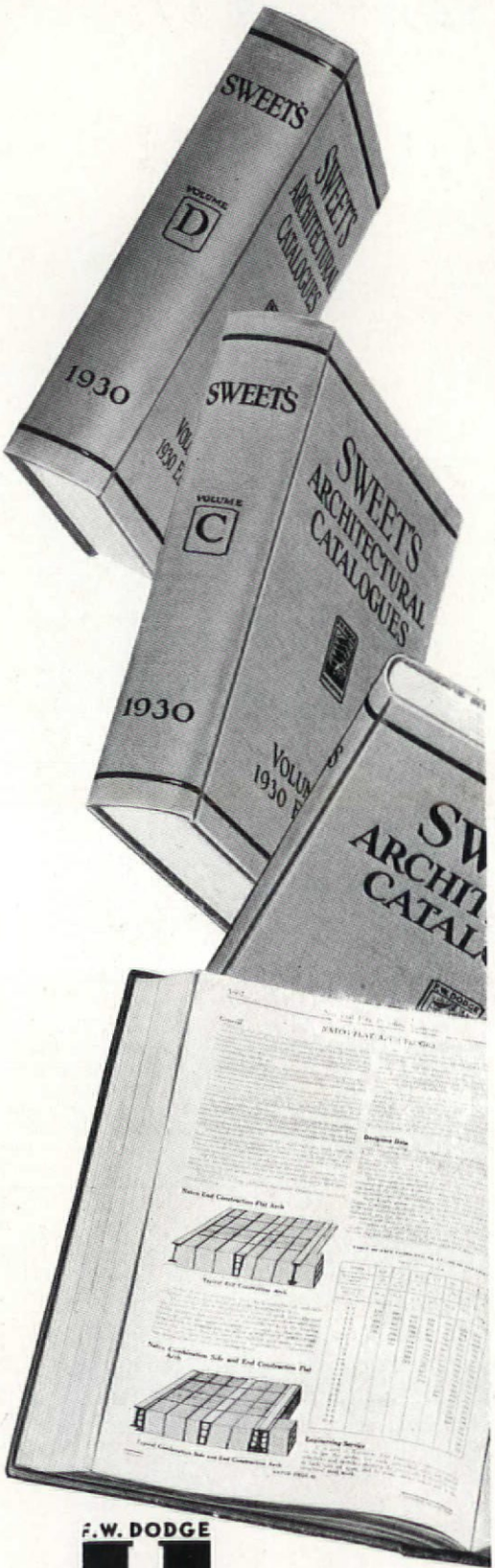
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Landmarks of Modern Protection

4725
121



THE MODERNISTIC MOVEMENT

Plate 3

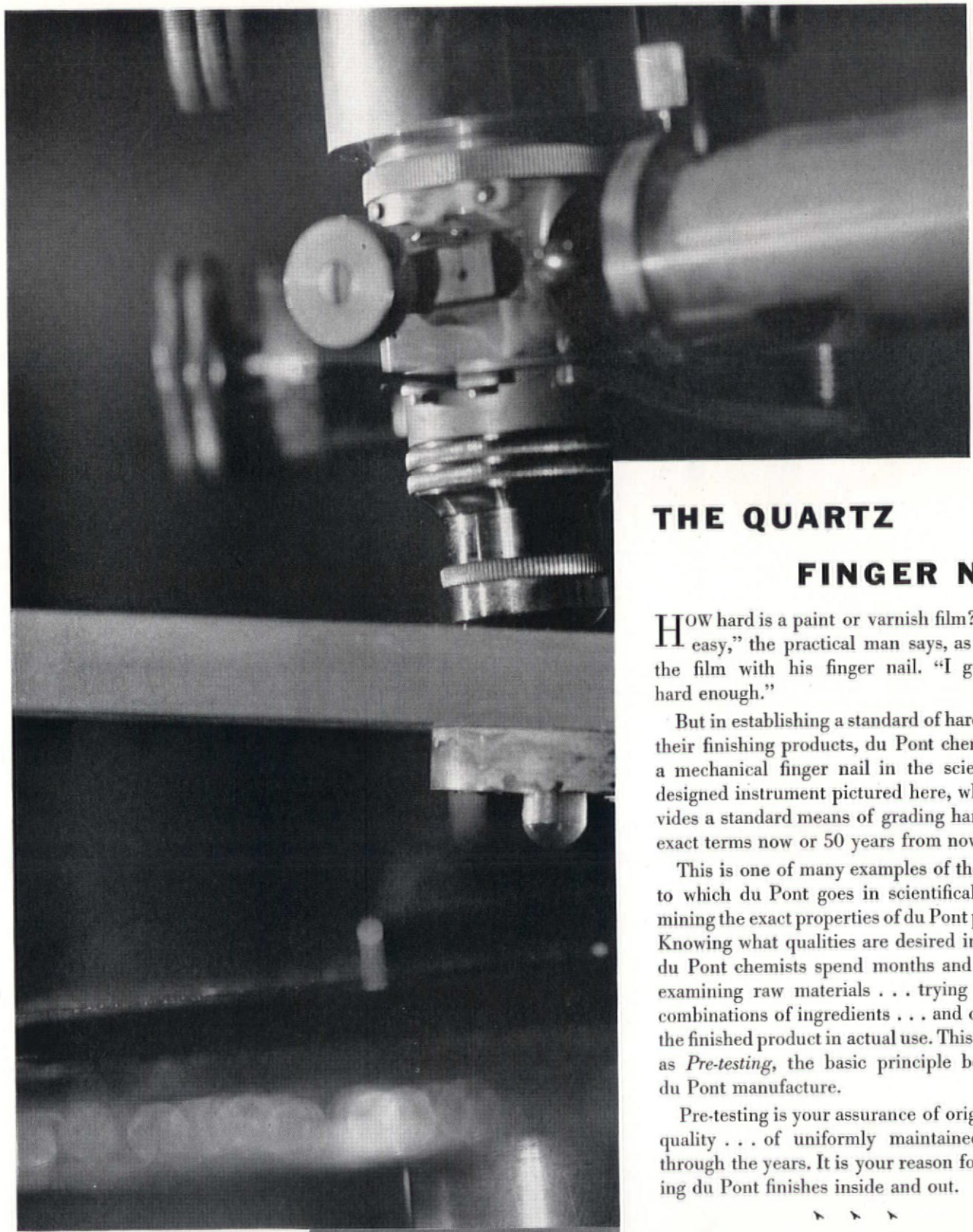
In the Hudson Store, Newcomb-Endicott Building, Detroit, is a children's barber shop known as Circus Land. The design, as created by the architects, Smith, Hinchman & Grylls, is unmistakably modern in character. Only the entrance is shown on this page, but that perhaps is the most unique feature of the interior. This entrance of Roman Travertine is but one part of a very large installation of marble, all of which was finished in our shops.

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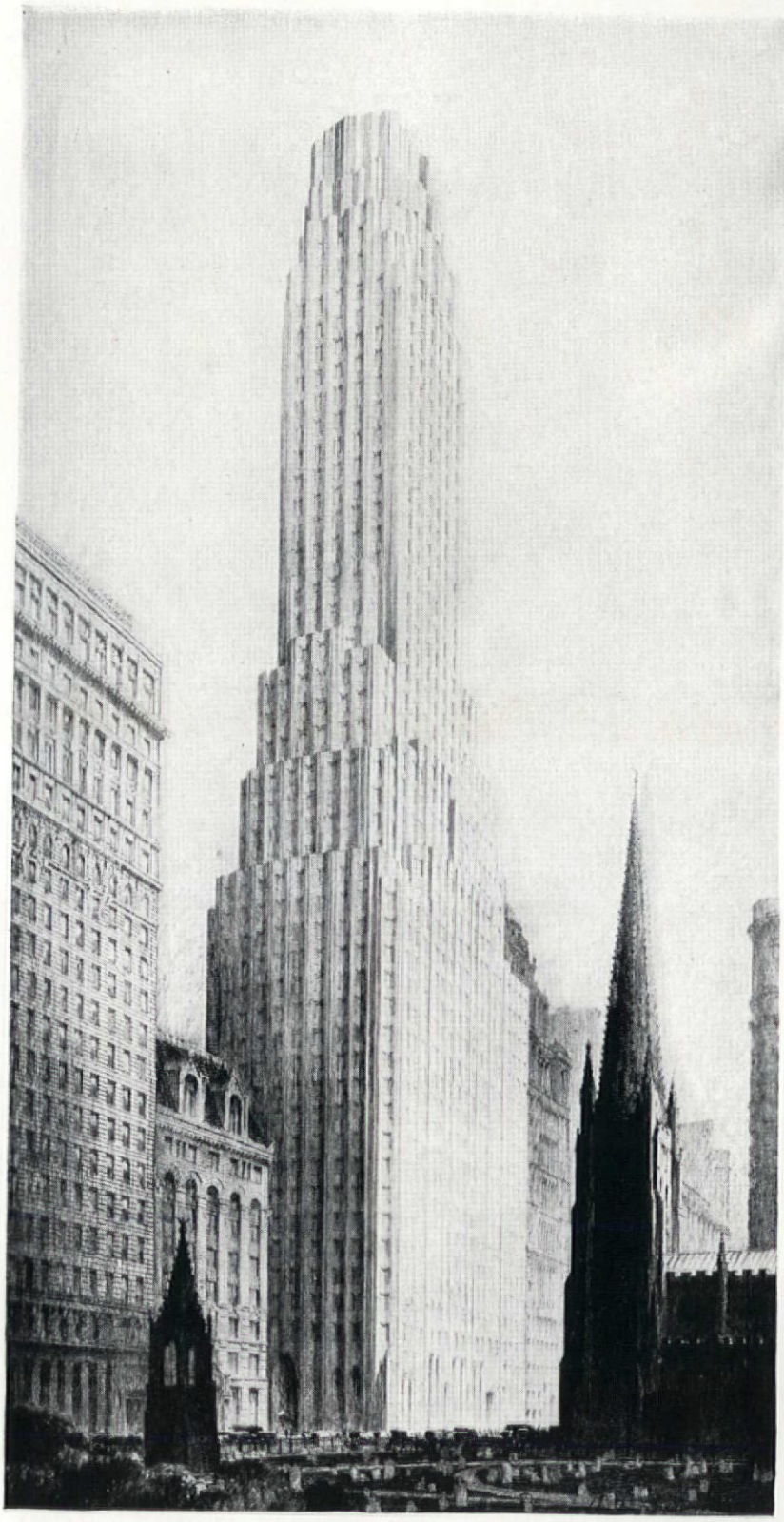


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Alberene Stone Spandrels Provide Pleasing Color Harmony with Limestone



This illustration shows ALBERENE STONE SPANDRELS at 33rd floor level of the new Newark & Essex Bank Building, Newark, N. J., *John H. & Wilson C. Ely*, Architects. *Starrett Bros. & Eken, Inc.*, General Contractors

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See details and other information overleaf



Tower portion of Newark & Essex Bank Building. ALBERENE STONE SPANDRELS used at 32nd and 33rd floor levels—on all four elevations.

ALBERENE STONE SPANDRELS

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Details of Alberene Stone Spandrels

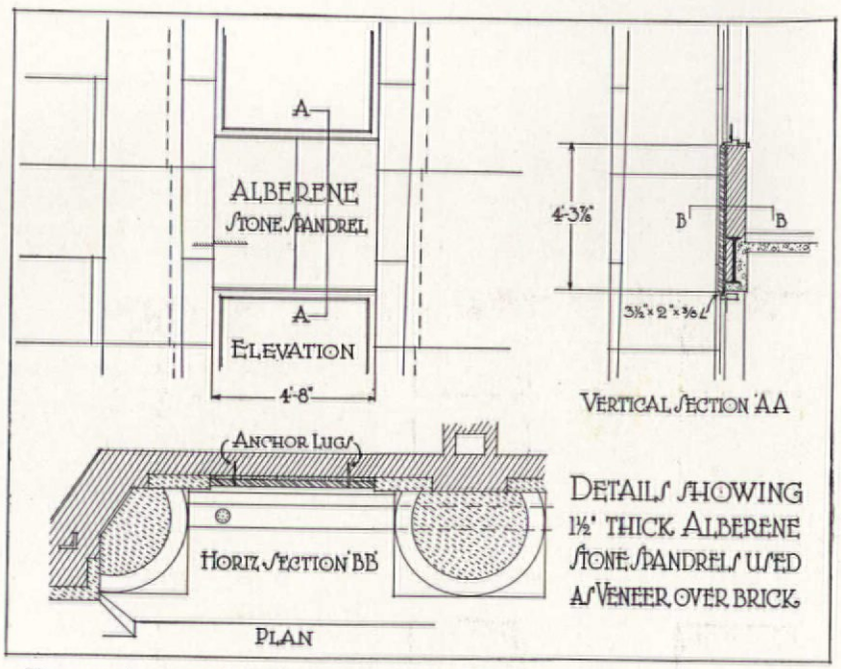


Figure 1. Alberene Stone Spandrels as installed on the 32nd and 33rd floors of the Newark & Essex Bank Building

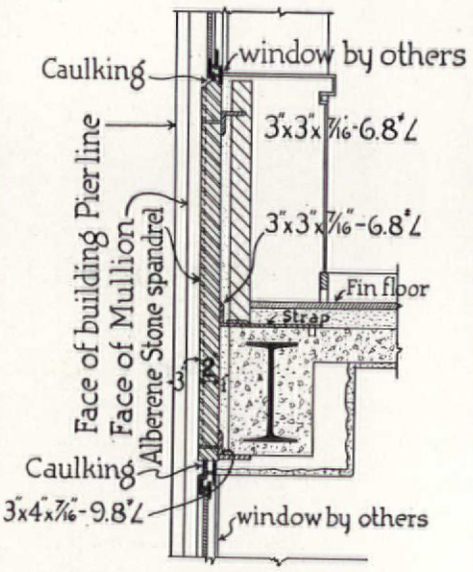


Figure 2. Another installation; in this instance the 1½" thick Alberene spandrel is backed up with a 2" brick wall, providing space for radiators to be recessed in the wall.

Information for the Specification Writer on Alberene Stone Spandrels

FIGURE 1 shows Alberene Stone Spandrels adapted to Single Window construction backed up with a full thickness brick wall. In this instance the Alberene Stone is merely a veneer and is used to provide a color and texture contrast to the limestone. Each spandrel is made up of two slabs (vertical center joint with the veining symmetrically matched. These slabs rest on 3½" x 2" x ⅜" angles and are secured to the wall with anchor straps.

EXTRA FLOOR SPACE

Figure 2 shows how the use of Alberene Stone Spandrels with a 2" thickness of brick leaves adequate space for radiators to be installed without using valuable floor space. The weight of the wall is also reduced.

Although Alberene Stone was considered first from the standpoint of beauty, the use of Alberene Stone Spandrels offers definite structural advantages as well.

SPECIFICATIONS

Material (*Double Spandrels*). All spandrels to be structurally sound soapstone, grade equal to Alberene Stone. Stone not to be less than 1½" thick at thinnest point. Each pair of spandrels to be securely bolted to three horizontal angles extending 2" beyond spandrel at each end.

Bottom angle to be 3"x4"x$\frac{7}{16}$", center and top angles to be 3"x3"x$\frac{7}{16}$". Mullion to be 3¾"x3¾" soapstone, rebated and bolted to steel flat 3½"x½".

Construction (*Double Spandrels*). Spandrels to be embedded in masonry 2" on each side, angles extending 2" farther into masonry to provide additional anchorage. Center angle to be bolted to unfinished floor by straps on 16" centers.

(*Single Spandrels*). (a) Spandrels to be embedded in masonry 2" on each side. (b) or, where spandrel is not embedded in masonry at sides it shall rest on 3½"x2"x⅜" angle and be secured to the wall by anchor straps.

Special Cases. Where window is set with deeper reveal than face of spandrel, provide counter sill. Counter sill to be rebated for metal window frame and securely bolted to spandrel. Also provide soffit return for lintel at window head. Soffit to be bolted to under side of the 3"x4"x$\frac{7}{16}$" angle.

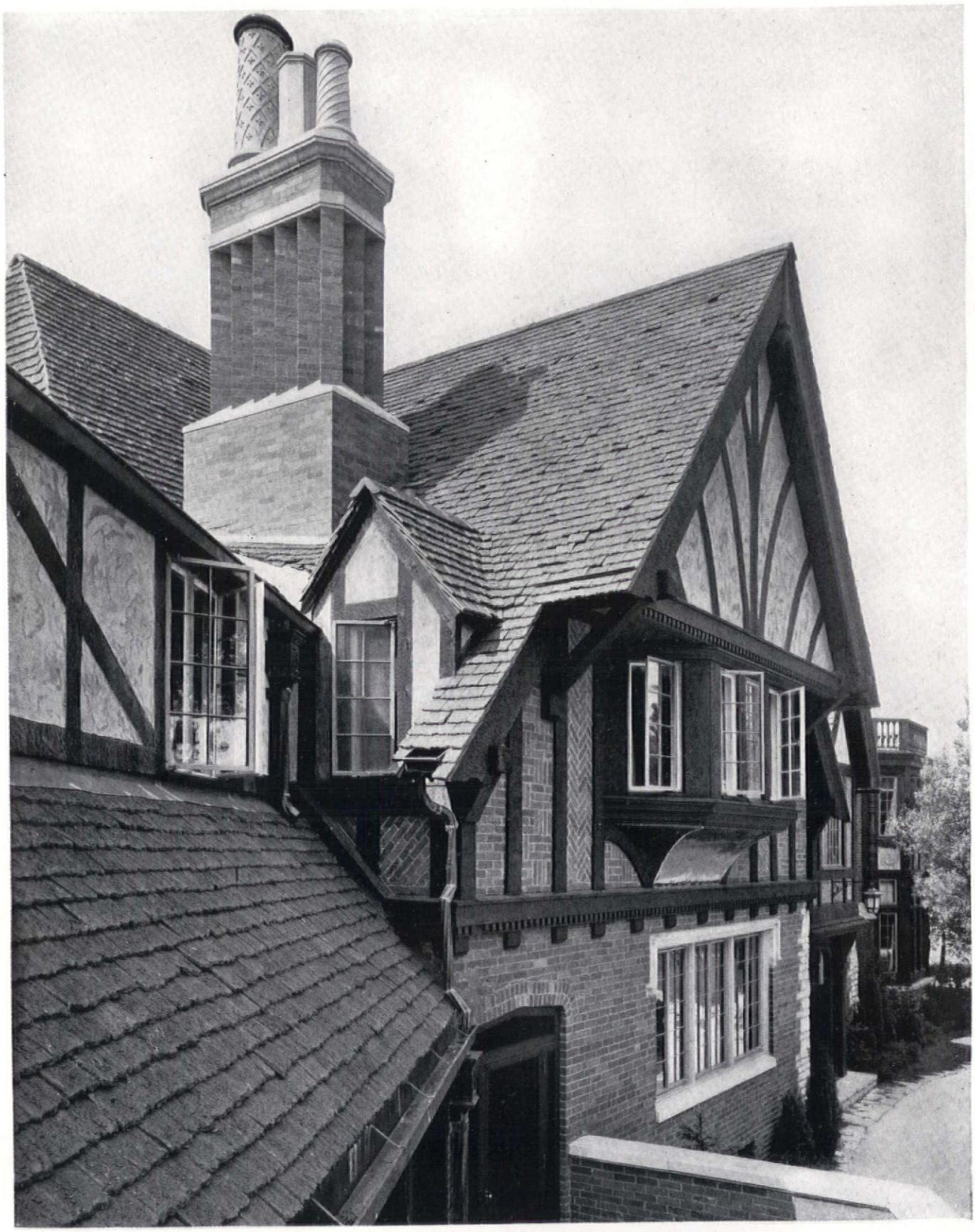
Note. *Angles are not needed with single spandrel unless of excessive dimensions requiring multiple units. Where space is not larger than 4'0" x 4'0", we recommend the use of single slab rather than built-up spandrels.*

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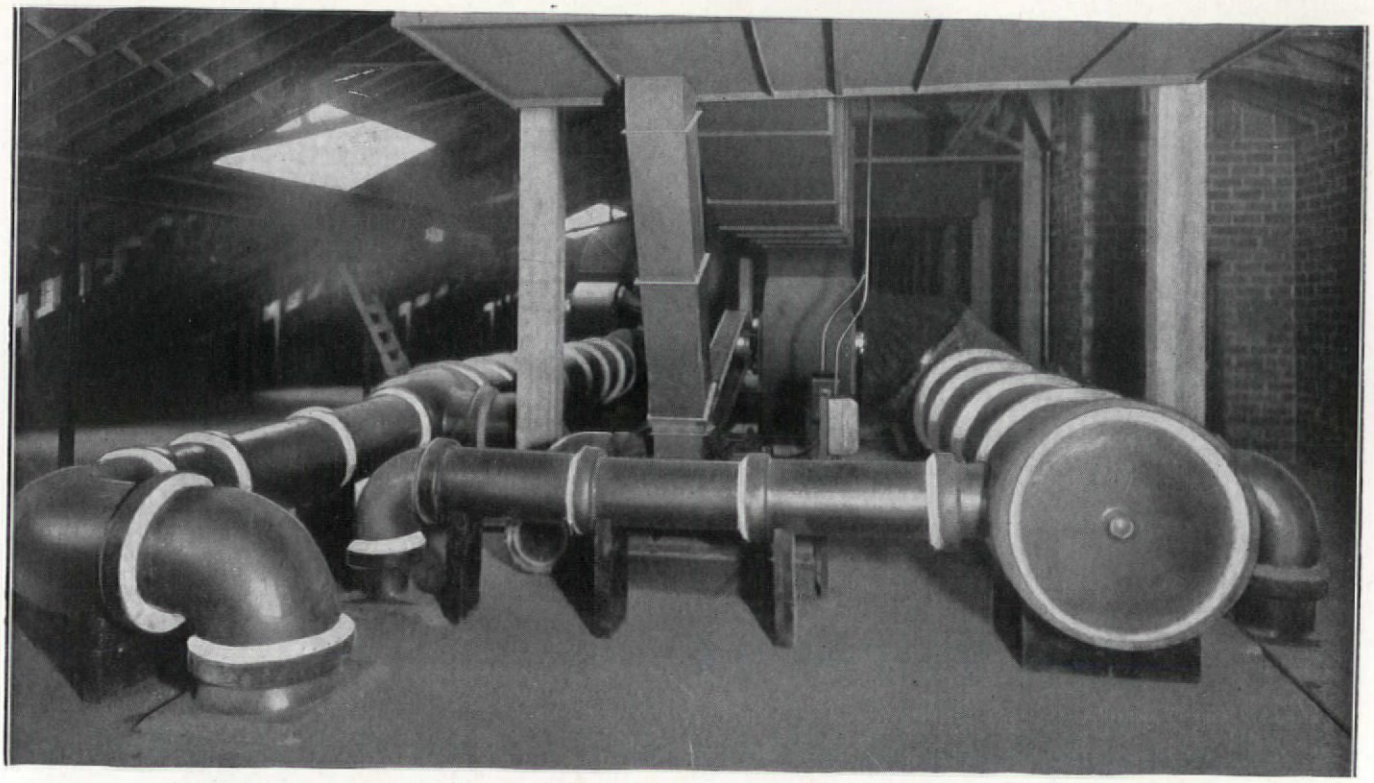


Detail of residence of William Chamberlain, Esquire, Winnetka, Illinois.
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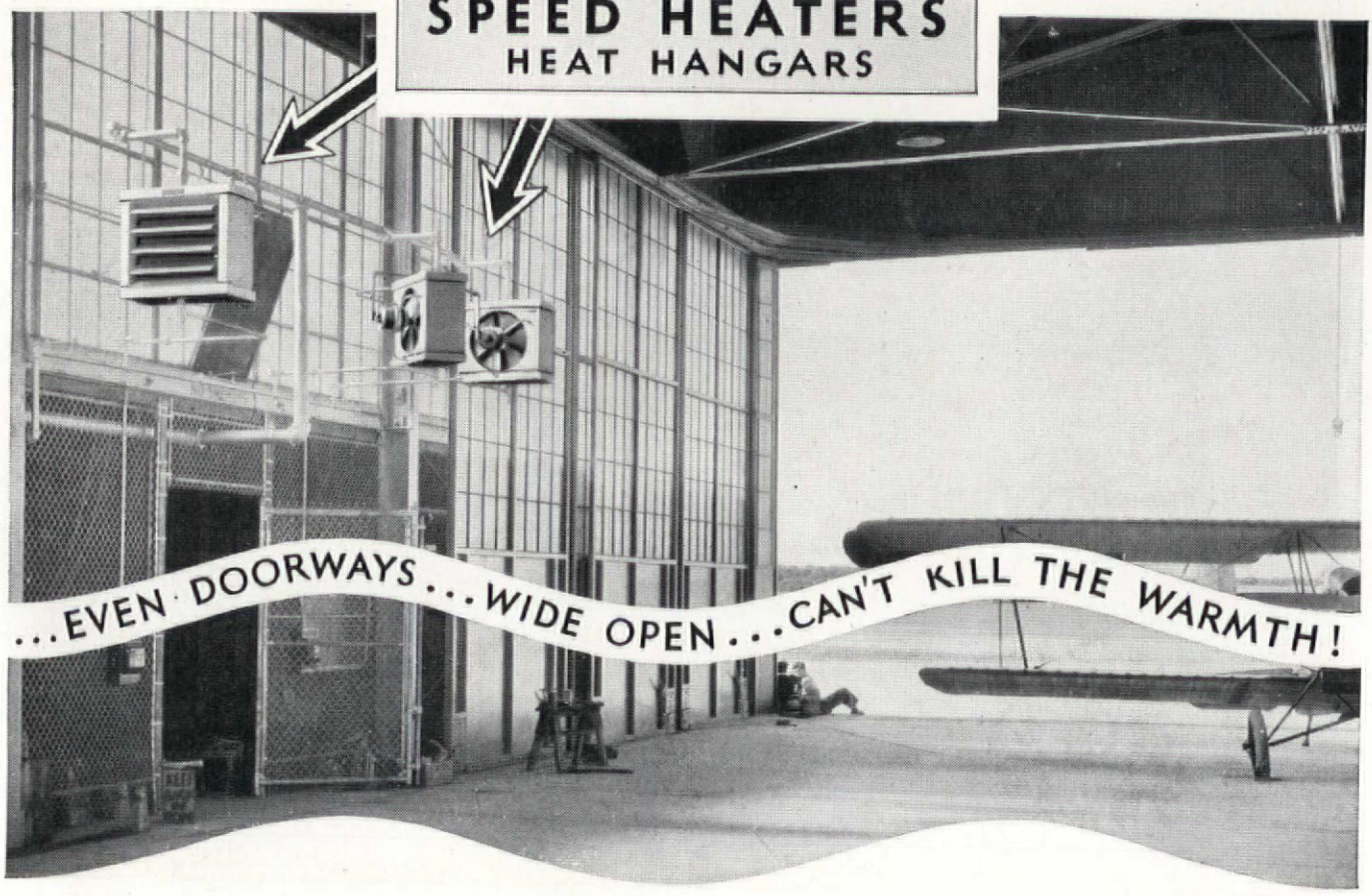
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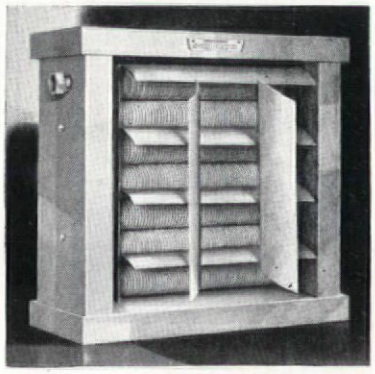
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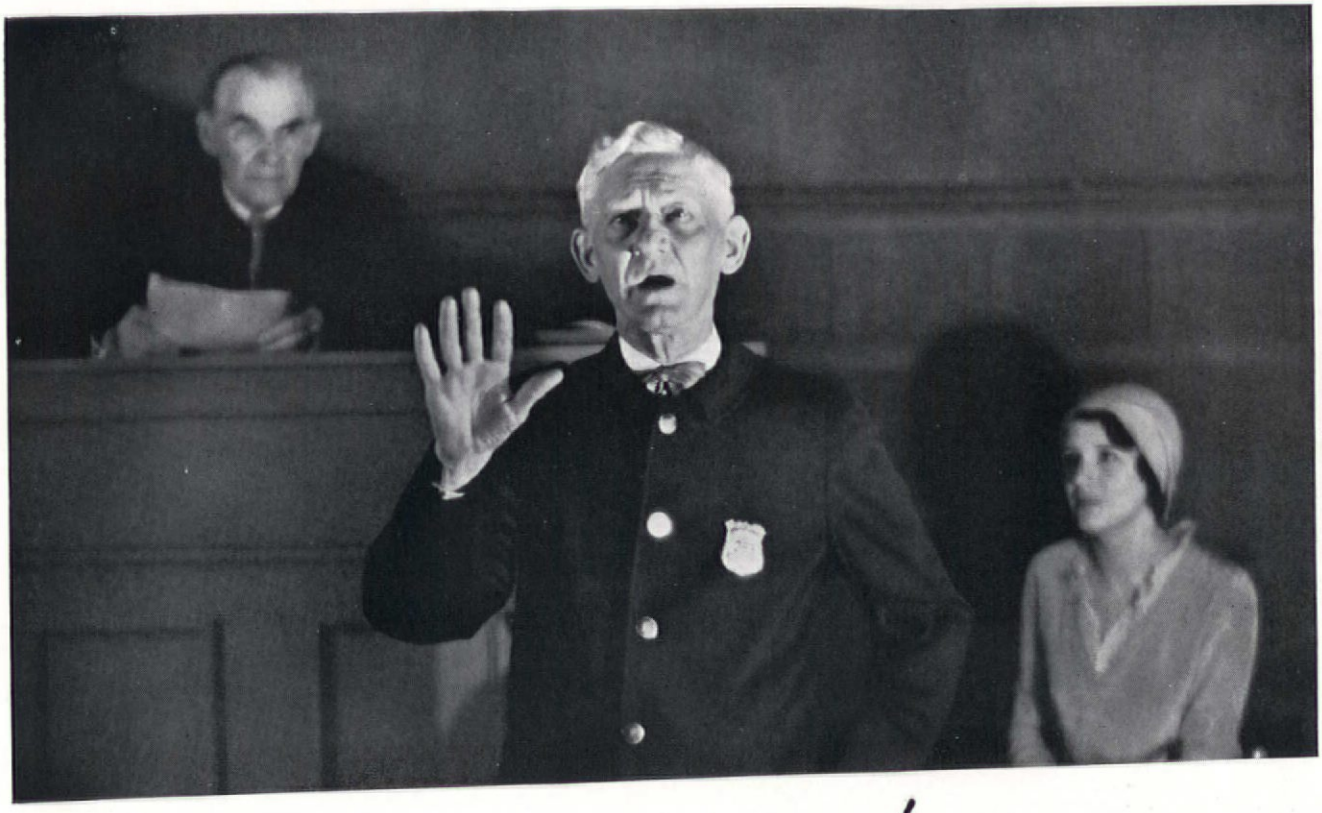
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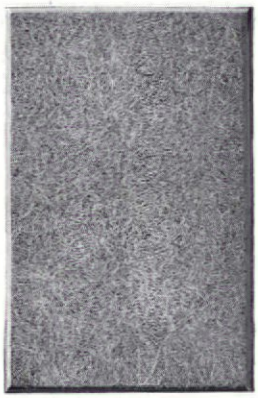
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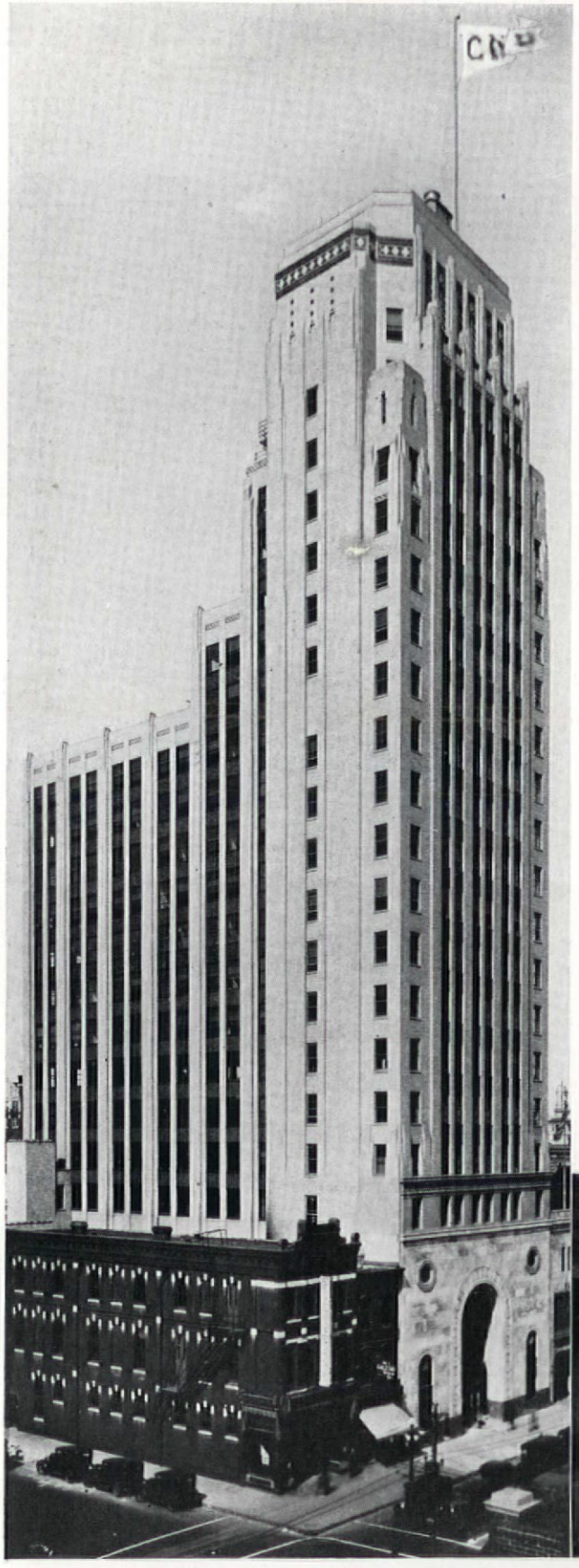
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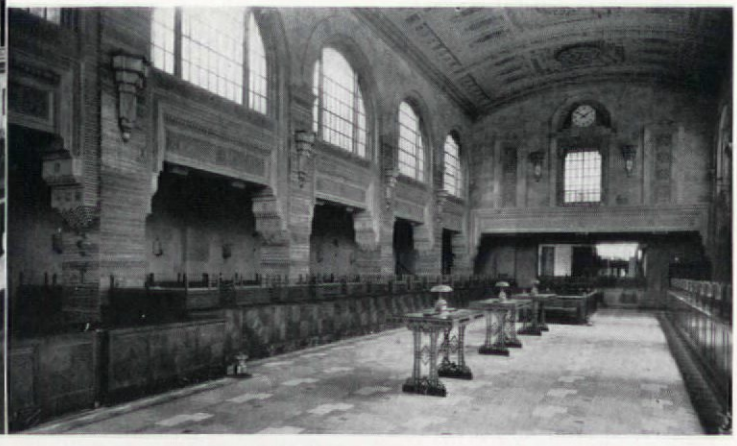
Eberson's organization sees no reason why banks should look like mausoleums, why hospitals should allow the feeling of the operating room to permeate every rest and bed room, why schools should have the gloom of medieval architecture, or garages the harsh crudeness of factory buildings.

Composed entirely of colorists, this firm is an exponent of what might be termed a new Modern American architecture, quite different from French and German Moderne. With Nature full of color, and believing that Nature and simplicity are art, in all work executed by Eberson & Eberson a distinct effort is made to create textures and contrasting lines that give best expression to the play of light and shadow.

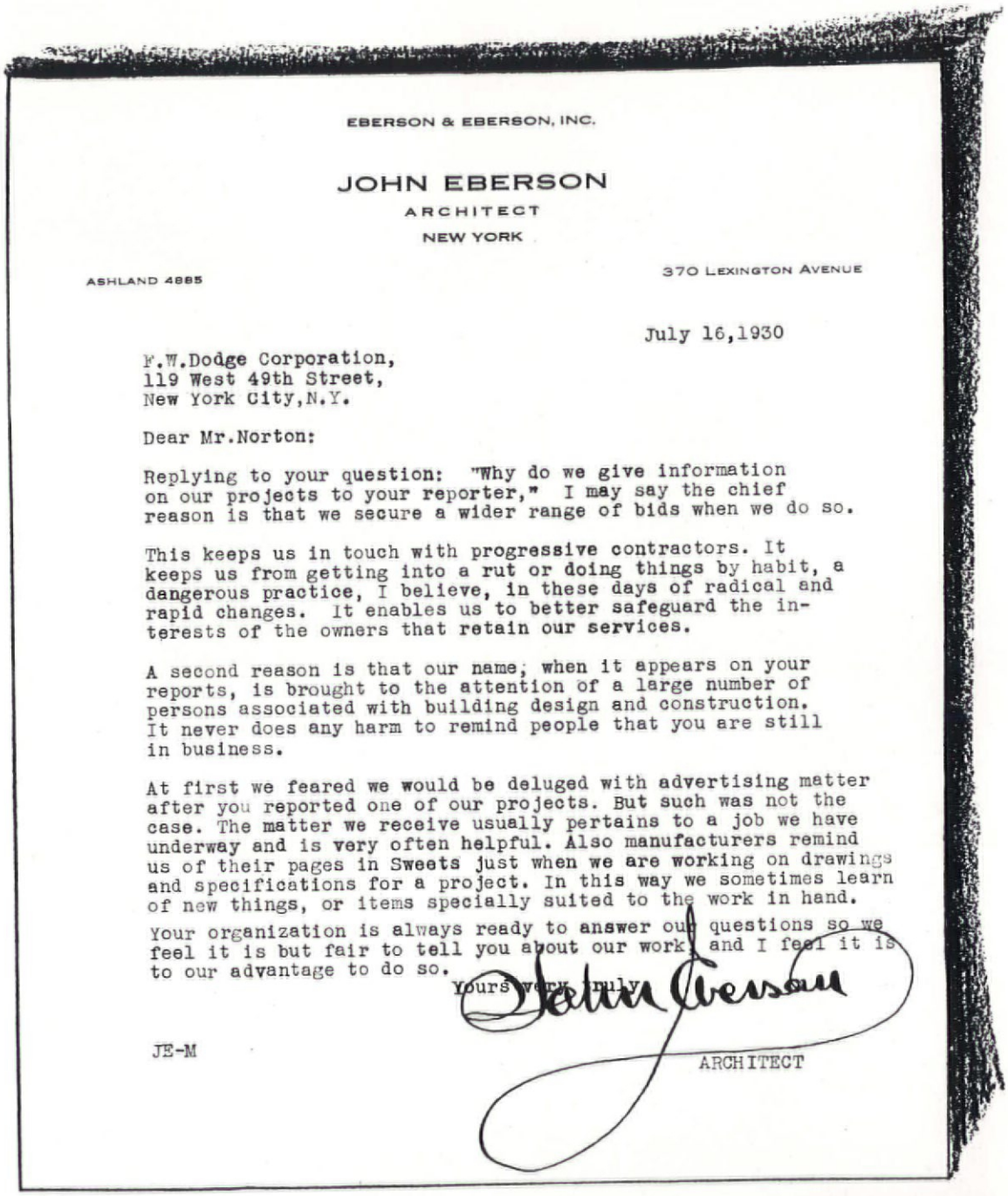
Recent work in America done by this office includes the 36-story Niels Esperson Building, Houston, Paradise Theatre and Commercial Building and the Valencia Theatre, both in New York, New Warner Theatre, Newark, N. J., Central National Bank, here pictured, and the Arcade Building, both in Richmond, Midwest Theatre and Office Building, Oklahoma City, Avalon Theatre, Chicago, United Artists Theatre, Louisville, Loew's Theatre, Akron, and the Majestic Theatre and Office Building, San Antonio. Work in foreign countries includes a new theatre and office building in Melbourne, Australia, a new theatre on Poissonniere Boulevard, Paris, Capital Theatre, Sydney, and a theatre for Union Theatres, Ltd., Adelaide, both in Australia.

John Eberson is a graduate of a university in Vienna. Until recently he maintained offices in Chicago and New York, now both organizations are combined in the latter city. Drew Eberson, his son, is associated with him.

Color gives a cheerful, friendly atmosphere to the Central National Bank, in Richmond, one of the commissions recently executed by Eberson & Eberson.



Gives News to DODGE



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JOHN EBERSON
ARCHITECT
NEW YORK

ASHLAND 4885

370 LEXINGTON AVENUE

July 16,1930

F.W.Dodge Corporation,
119 West 49th Street,
New York City,N.Y.

Dear Mr.Norton:

Replying to your question: "Why do we give information on our projects to your reporter," I may say the chief reason is that we secure a wider range of bids when we do so.

This keeps us in touch with progressive contractors. It keeps us from getting into a rut or doing things by habit, a dangerous practice, I believe, in these days of radical and rapid changes. It enables us to better safeguard the interests of the owners that retain our services.

A second reason is that our name, when it appears on your reports, is brought to the attention of a large number of persons associated with building design and construction. It never does any harm to remind people that you are still in business.

At first we feared we would be deluged with advertising matter after you reported one of our projects. But such was not the case. The matter we receive usually pertains to a job we have underway and is very often helpful. Also manufacturers remind us of their pages in Sweets just when we are working on drawings and specifications for a project. In this way we sometimes learn of new things, or items specially suited to the work in hand.

Your organization is always ready to answer our questions so we feel it is but fair to tell you about our work, and I feel it is to our advantage to do so.

Yours very truly,

John Eberson

JE-M

ARCHITECT

DODGE REPORTS

Member of the Dodge Group of Building Field Publications and Services

The Architectural Record
General Building Contractor
Sweet's Architectural Catalogues
Sweet's Engineering Catalogues
Dodge Reports
The Graphic Review

F. W. DODGE CORPORATION, 119 West 40th St., NEW YORK and PRINCIPAL CITIES

TE-PE-CO

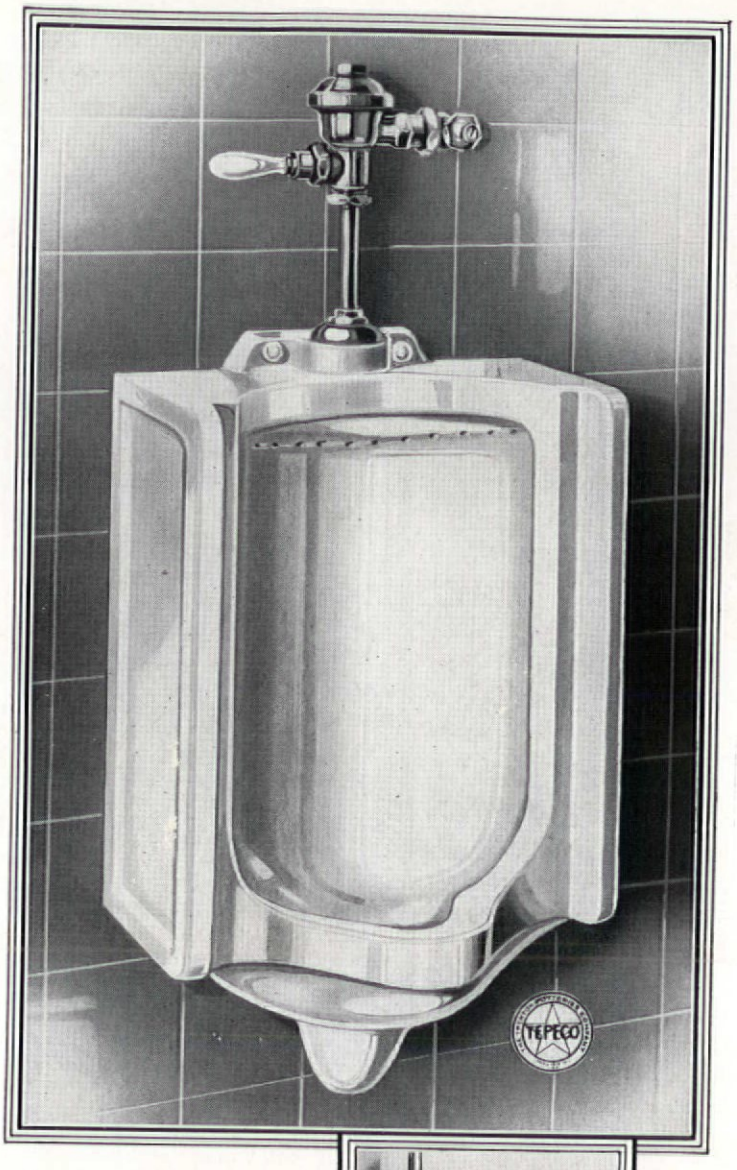
Vitreous China Penn Urinal

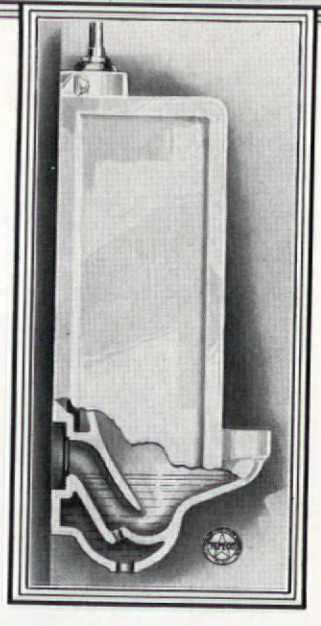
TE-PE-CO recommends the Penn Blow Out Urinal for Toilet rooms where it is desired to keep all piping above the floor. It affords ample room — measuring 18-inches in width, is cleanly, durable and *cannot be clogged.*

Its flushing rim, large water surface and jet action assures a positive and thorough cleansing of the entire inner surface. The entire trapway being larger than its opening in the bowl will obviously pass anything that enters it. Projecting but 13-inches from the wall it requires little floor space and leaves a clear unobstructed floor that is easy to keep clean.

While a comparatively new fixture, its merits are so evident that it has already been installed in many buildings, the most notable of which are the News Building, Irving Trust Building, 40 Wall St. Building; all in New York City and the new Pennsylvania Railroad Office Building in Philadelphia, Penna.

THE TRENTON POTTERIES COMPANY
Trenton, New Jersey, U. S. A.
National Showroom — New York City
101 Park Ave., Entrance on 41st St.
Branch Offices: Boston, Philadelphia, San Francisco
Export Office: 115 Broad Street, New York City





OUR GUARANTEE

We make but one grade of ware — the best that can be produced — and sell it at reasonable prices. We sell no seconds or culls. Our ware is guaranteed to be equal in quality and durability to any sanitary ware made in the world. The Te-pe-co trade mark is found on all goods manufactured by us and is your guarantee that you have received that for which you have paid.

TE-PE-CO
ALL-CLAY PLUMBING FIXTURES



Over 100,000 bags of

Plaster will be *used* in the Empire State Building

GYPSTEEL

GYPSUM PLASTERS

are being used on this building, the highest in the world.

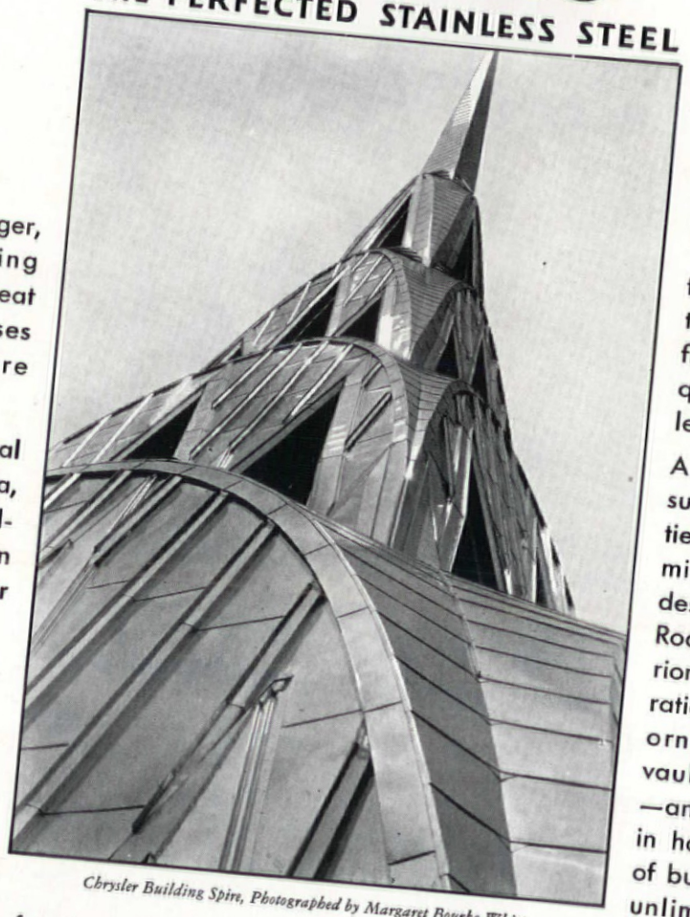
STRUCTURAL GYPSUM CORPORATION

Linden, N. J. Linden 2-3700

Shreve, Lamb & Harmon, Architects
Starrett Bros. and Eken, Inc., General Contractors
Martin Conroy & Sons, Inc., Plastering Contractors
General Builders Supply Corporation, Dealers

SHEATHED IN THE ETERNAL LUSTRE OF ENDURO

THE PERFECTED STAINLESS STEEL



Chrysler Building Spire, Photographed by Margaret Bourke-White

LIKE a gigantic finger, clad in gleaming armor, New York's great Chrysler Building rises majestically for more than a thousand feet.

Sheathed in the eternal lustre of Enduro Nirosta, it is a glittering landmark — conspicuous in a skyline celebrated for its famous buildings.

Another new building — the Empire State — will also use great quantities of this new perfected, stainless steel. Its pilasters will be of Enduro Nirosta.

Modern architecture calls for the most modern materials . . . . and Enduro Nirosta KA2 is essentially a metal of the twentieth century.

It will not tarnish. Its smooth, mirror-like finish is impervious to rust, corrosion and the destructive action of most acids. It can't chip off or wear thin like a plated surface because it is the same wonderful metal all the way through.

Architects, engineers and builders — among the first to grasp the importance of Enduro — are finding its exceptional qualities useful in countless ways.

A stainless metal with such remarkable properties lends itself most admirably to present day design and construction. Roofing, sash, trim, interior and exterior decoration — elevator doors, ornamental gratings, vaults, lighting fixtures —and fittings of all sorts in homes and all types of buildings offer almost unlimited possibilities for the use of Enduro.

Republic has already placed at the disposal of industry the largest facilities in the world for the production of Enduro, and increasing demand has made further expansion necessary.

A special Republic metallurgical department is devoted to alloy steel research. Its findings are available to architects, engineers, manufacturers —anyone in any field who is interested in the development of new steels and new uses for steel.

Central Alloy Division

REPUBLIC STEEL CORPORATION

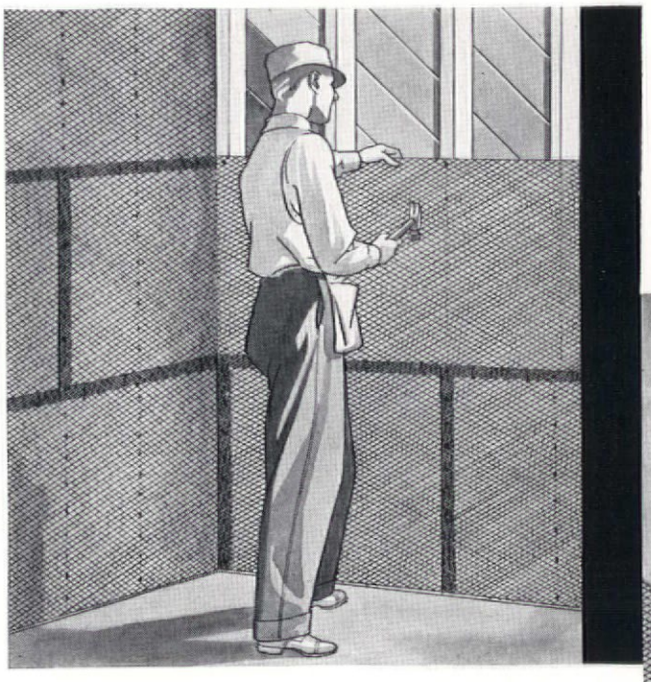
GENERAL OFFICES: YOUNGSTOWN, OHIO

THE INSULATION THAT MADE GOOD OVERNIGHT

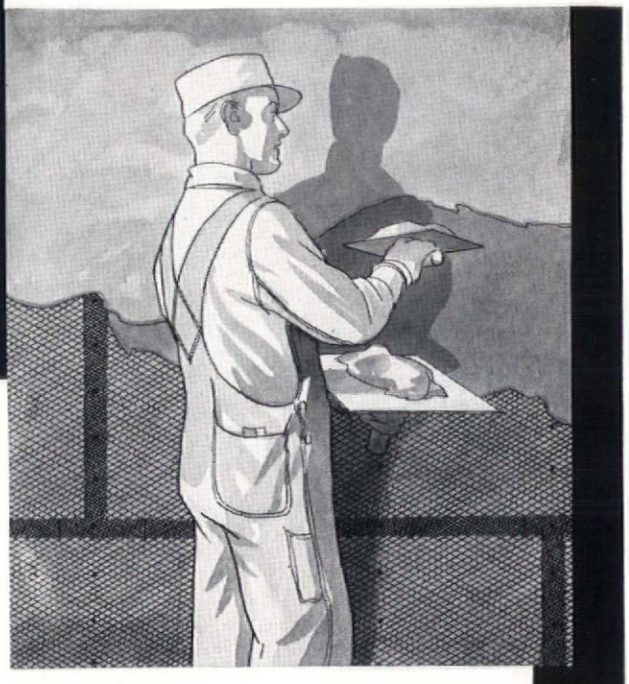
BI-FLAX

A PLASTER BASE OF STEEL

WITH FLAX-LI-NUM INSULATION



INSULATES AGAINST HEAT AND COLD



PROTECTS AGAINST PLASTER CRACKS

Flax-li-num has long been recognized as the highest type of insulation available . . Diamond mesh metal lath painted with asphaltum after forming, is universally accepted as the ideal plaster base.

While Bi-Flax is a new development in building materials . . it is new only because, for the first time, it combines these two long-accepted materials into a practical insulating plaster base.

Since its announcement a few months ago Bi-Flax has become the most discussed insulation on the market. It revolutionizes plastering and insulating practice. It protects buildings of all kinds against age as well as weather. It offers a perfect plastering surface without loss of insulating value. Ask for a sample of this remarkable new material.



Product of

THE FLAX-LI-NUM INSULATING CO.

ST. PAUL, MINNESOTA

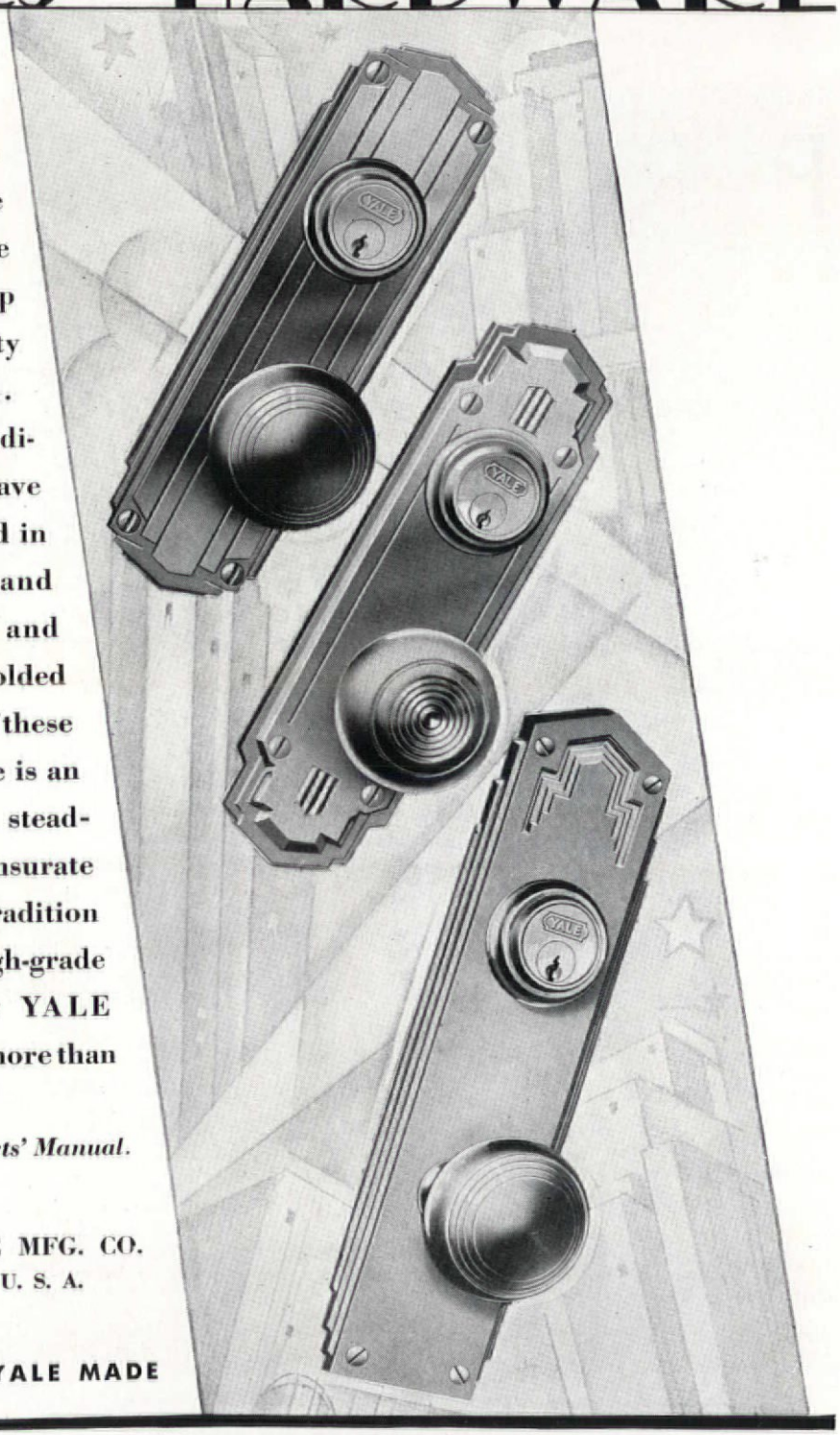
TRADE **YALE** MARK

BUILDERS HARDWARE

SKYSCRAPER MOTIF

Inspired by those towering monuments to this startling age whose tips reach ever higher toward the skies . . . their clean, sheer sweep of line and dynamic simplicity keyed to the pulse of the day . . these designs moderne are dedicated to those who would have their mode of life personified in their business structures and homes as in their clothes and manners and motors. And molded into the beautiful artistry of these striking pieces of hardware is an indomitable strength . . . a steadfast security . . . commensurate with the ever-ripening tradition of quality with which high-grade locks and hardware by YALE have been endowed for more than half a century.

Write for copy of Architects' Manual.



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STAMFORD, CONN., U. S. A.

YALE MARKED IS YALE MADE

PADLOCKS, AUXILIARY RIM LOCKS, BUILDERS' LOCKS AND TRIM, CABINET LOCKS, TRUNK LOCKS, DOOR CLOSERS, BANK LOCKS, PRISON LOCKS



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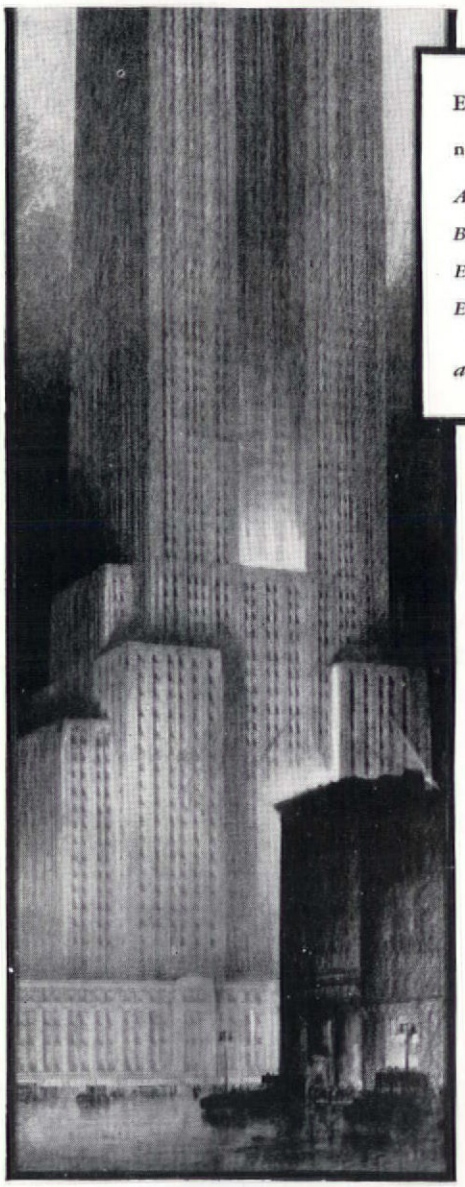
Electric Service

in

WORLD'S TALLEST BUILDING

to be guarded by

G-E WIRING MATERIALS



EMPIRE STATE BUILDING
now under construction in New York City

Architects—Shreve, Lamb & Harmon
Builders—Starrett Brothers & Eken, Inc.
Electrical Contractors—L. K. Comstock & Co.
Electrical Engineers—Meyer, Strong & Jones, Inc.
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EIGHTY-FIVE office floors . . . batteries of flood lights . . . space for 20,000 tenants using myriad lamps, business machines, telephones—what tremendous, intricate electric service the new tallest-in-the-world Empire State Building will require!

G-E Wiring providing this service will be safeguarded from sub-basement to tower beacon by more than 1,000,000 feet of G-E "White" Rigid Conduit.

Architects, contractors, builders everywhere are selecting G-E "White" because they know it can be relied upon for the life of any building.

It is high-grade mild steel tubing, *hot-dipped galvanized* outside and in.

G-E Code Wires further add to the dependability of wiring because their long-life insulation *exceeds* Code requirements. Clean finish facilitates handling. Eight colors make circuit marking easy.

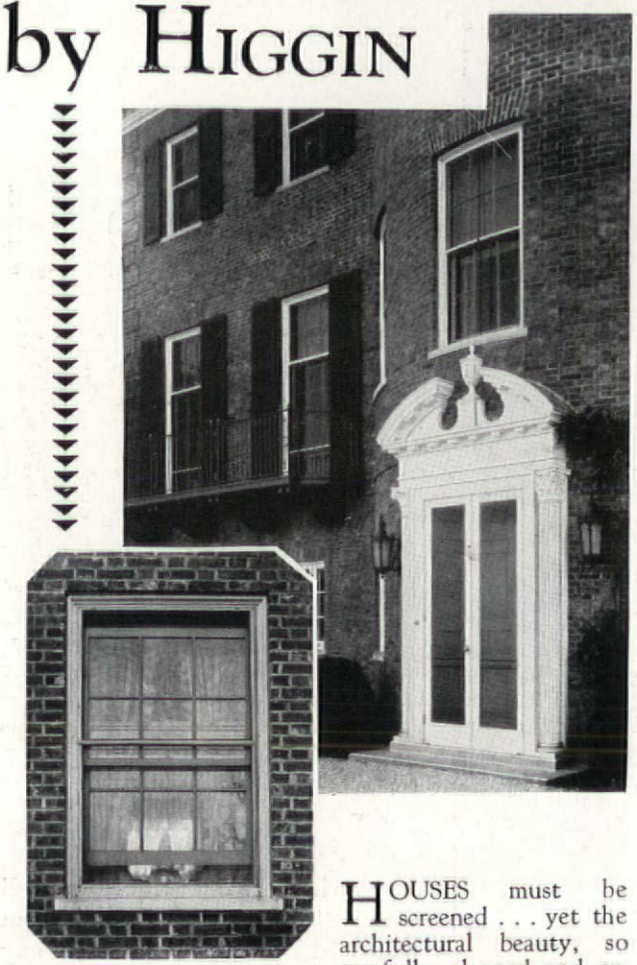
G-E Merchandise distributors everywhere can supply you . . . or write to Section CW-1510, Merchandise Department, General Electric Co., Bridgeport, Connecticut.

GENERAL ELECTRIC

WIRING MATERIALS

MERCHANDISE DEPARTMENT • GENERAL ELECTRIC COMPANY • BRIDGEPORT, CONNECTICUT

The *finishing* touch . . . Screens by HIGGIN



HOUSES must be screened . . . yet the architectural beauty, so carefully planned and executed is often marred with screens.

And so unnecessarily, for Higgin Screens can scarcely be seen. They're visible only as an accentuation of the harmonies you have planned into the building. Their narrow metal frames and invisible bronze mesh admits the maximum light and air . . . yet not an insect can get in!

Every opening: windows, doors, porches . . . are given individual study by the Higgin Experts. Let the Higgin representative in your locality work with you . . . he knows screens as you know architecture.

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Screen Specialists since 1893
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Refer to Sweet's for complete data on Higgin All-Metal Frame and Rolling Screens, All-Metal Weather-Strips and Access Panels. Folder on Venetian Blinds.

HIGGIN
ALL METAL
SCREENS

"O. K. in Every Case"



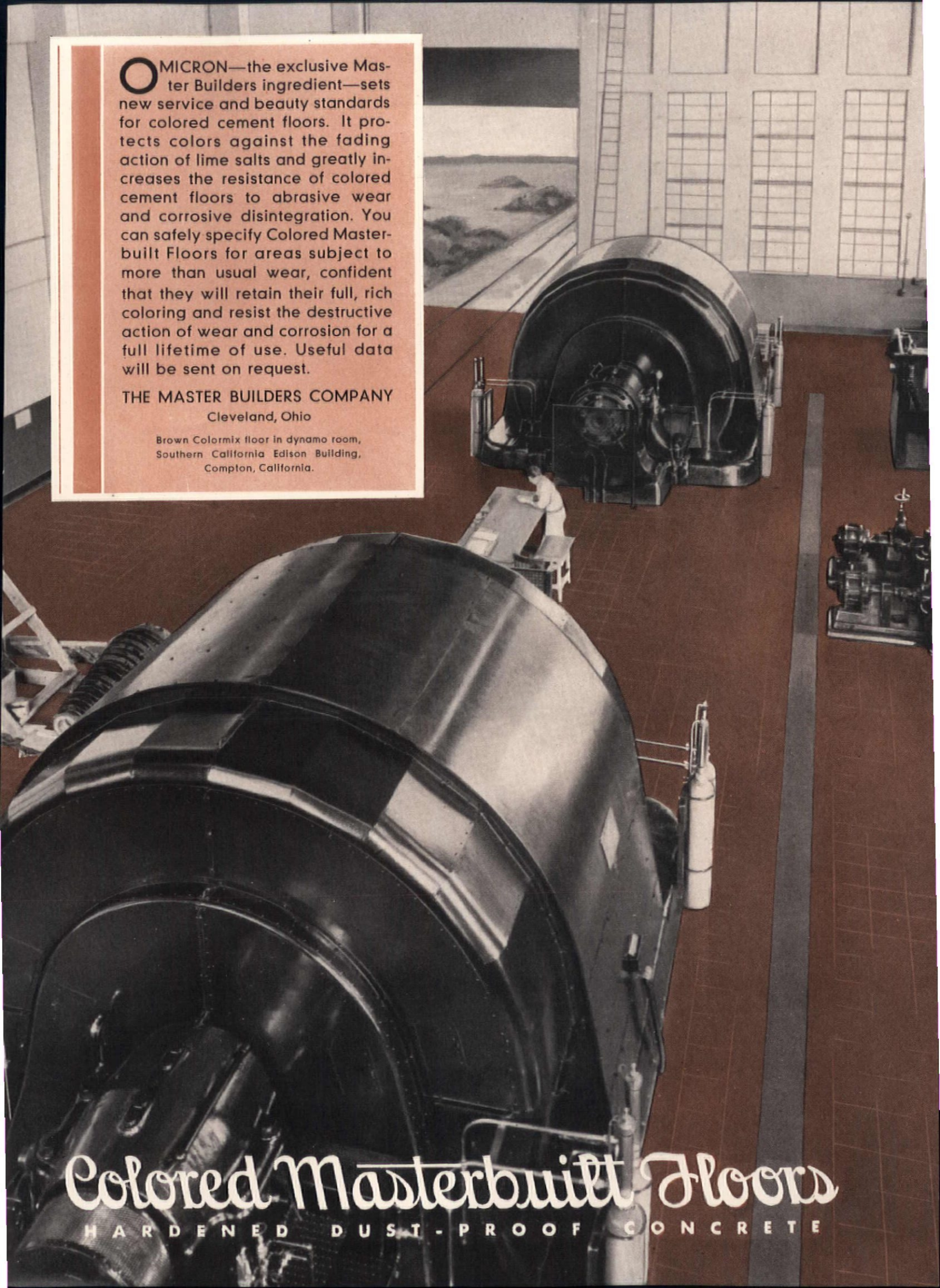
Interior of House, of H.A.G. Scherer, Summit, N.J.
"STEELTEX was used for stucco and plaster base for the Stroh, Scherer, and Holbrook Houses. The photos show the results. O. K. in every case."
(Signed) Duncanhunter, Architect, New York

RIBBED *STEELTEX* LATH
Insulates . . . Deadens Sound **FOR INTERIOR PLASTER** *Prevents Cracks and Lath Marks*

The background of this advertisement shows Ribbed *STEELTEX* lath. Note how the plaster flows against the backing and under and around the steel wire network. There are three other styles of *STEELTEX*,—for STUCCO,—for BRICK or STONE VENEER,—for FLOORS and ROOFS. Also *STEELTEX* partitions and suspended ceilings and CORDEX, a super building paper. Write today for FREE descriptive literature. Address DEPT. I-49.

NATIONAL STEEL FABRIC COMPANY
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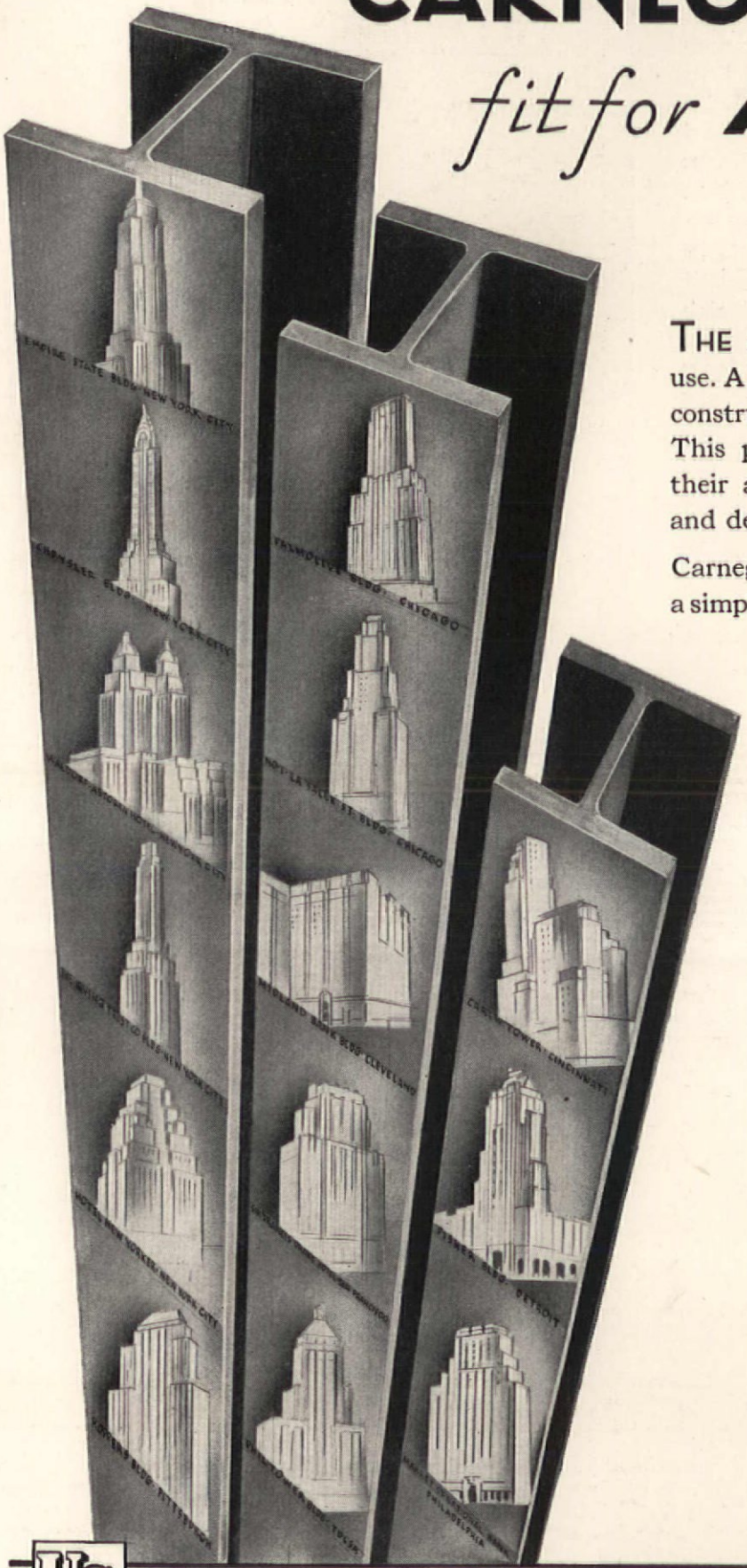
THE MASTER BUILDERS COMPANY
Cleveland, Ohio

Brown Colormix floor in dynamo room, Southern California Edison Building, Compton, California.

Colored Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

CARNEGIE BEAMS
fit for ANY *job*



THE merit of a material is proved in its use. A conspicuous feature in recent, notable construction is the use of Carnegie Beams. This popularity is the best indication of their adequacy to the needs of architects and designers—their fitness for the job.

Carnegie Beams bring to steel construction a simplicity of detail, a facility of fabrication and erection, and a flexibility of design never before possible. Wide parallel flanges, obtainable in Carnegie Beams only, simplify very markedly the great variety of connections necessary in fabrication. Constant-depth columns afford opportunities for duplication, both in design and erection. Due to the wide variety of sections and weights you will always find a Carnegie Beam which closely approximates the theoretical strength required.

Carnegie Beams merit the investigation of any one interested in efficient and economical construction. The advantages of these sections apply to any type of construction involving the use of structural steel, regardless of size or type of architecture. Carnegie engineers are always at your service.

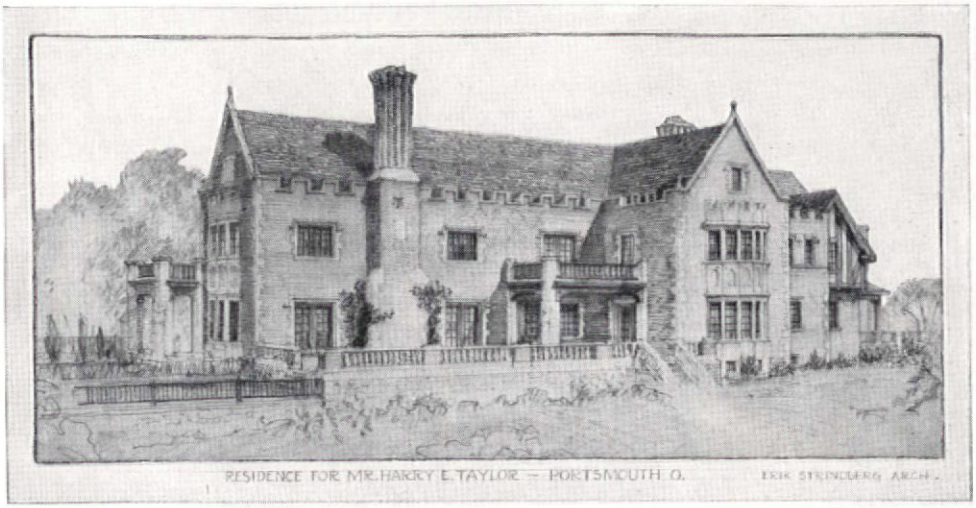
90

U S STEEL

CARNEGIE STEEL COMPANY »» PITTSBURGH

Subsidiary of United States Steel Corporation

WHEN YOU PLAN



a fine residence

Perspective shows residence for Mr. Harry Taylor, Portsmouth, Ohio. Erik Strindberg, Architect, Portsmouth, Ohio

Par-Lock

Specification form B specified on interior of exterior walls above grade.

PAR-LOCK and Dens-tect protective treatments help to make it a source of pride for many years to come. Beautiful masonry was never more popular than today, never more worthy of the safeguards that insure interior as well as exterior satisfaction.

Par-Lock service is universal, embracing the residential as well as the commercial field—the small city or suburb as well as the large center. Everywhere, under all circumstances, you get a uniform product and a unified service, that assure—

1 Dependable plaster key.

2 Protection against dampness and stain.

3 An expansion joint that cushions the stresses between plaster and masonry.

Consult any of the listed appliers in regard to Par-Lock or Dens-tect and secure a recommendation best suited to the nature of the installation in view.

THE VORTEX MANUFACTURING COMPANY

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CHICAGO
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CINCINNATI
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CLEVELAND
218 Hunkin-Conkey Bldg.

COLUMBUS
751 South Cassingham Rd.

DETROIT
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434 Builders Exchange

NEWARK, N. J.
24 Commerce Street

NEW YORK CITY
50 Church Street

PHILADELPHIA
1700 Walnut Street

PITTSBURGH
207 Fulton Building

SCRANTON
Cedar Avenue

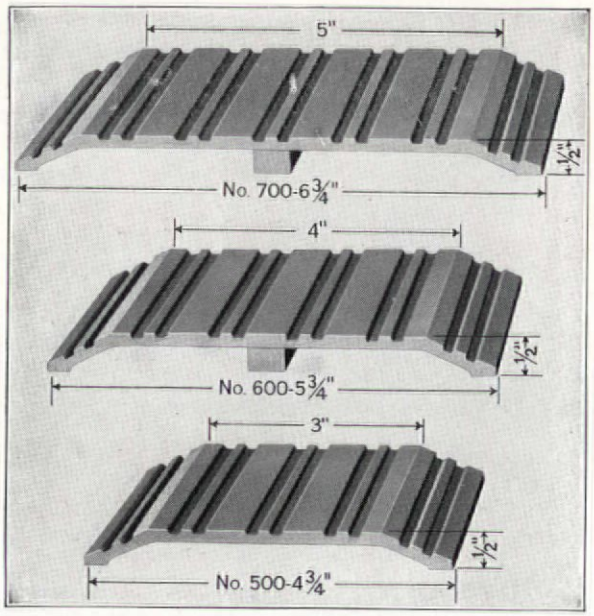
ST. LOUIS
1514 Chemical Building

TORONTO
2258a Bloor Street, West

TRENTON
339 Broad St. Bank Bldg.

YOUNGSTOWN
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Appreciation of the Completed Building BEGINS *at the* THRESHOLD!

Rixson Thresholds of Architectural Bronze or Aluminum . . . .

Whether it is the owner on his first inspection of the finished job, or the hundred-thousandth visitor to enter the occupied building, the threshold is part of his first glance at the portals. Thus the threshold must be good—today and years from today.

Rixson Thresholds convey a mute message of "class" as well as "utility". The extruded design is handsome, the metals dignified and durable, and the application amazingly simple. For they can be specified by type and number, where floor checks are used, ready drilled and matched to any type of Rixson Floor Check.

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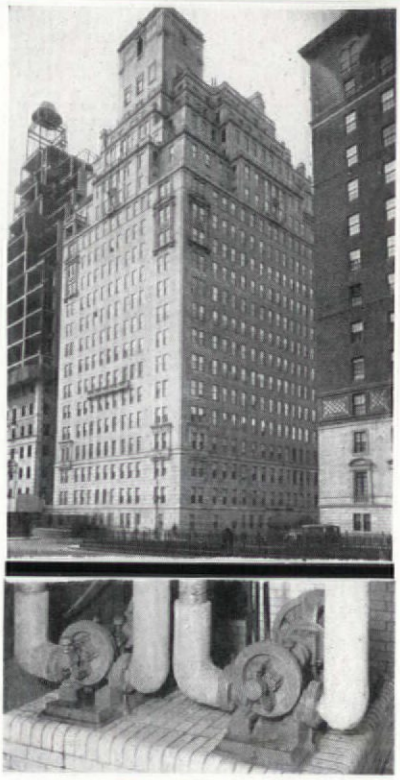
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You Can Stake Your Reputation On

RIXSON

Builders' Hardware

AGAIN, WESTCO SATISFIES THE INSISTENT DEMAND FOR LIVELY, RUNNING WATER



A generous 100 g.p.m. against 190 ft. head is delivered at 784 Park Avenue, New York City by a 7H7 Westco with a 10 h.p. motor.

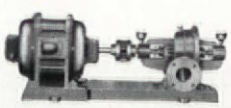
SEE OUR Catalogue IN SWEETS

The exacting demands of apartment dwellers for an abundance of lively, running water are specifically met by the installation of Westco Turbine Pumps.

Because of their wide operating range, Westcos are NOT affected by fluctuating city pressures. This outstanding characteristic is one of the many reasons why a fast growing majority of building owners are finding Westcos to be the ideal pumps for house and booster service in apartment buildings, hotels and skyscrapers.

And when it comes to prices—Westcos offer all the advantages of double-suction, split case pump design at a price no higher than your client is asked to pay for ordinary side suction, single bearing pumps.

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- Wide operating range.
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WESTCO-CHIPPEWA PUMP COMPANY
Factory and General Offices, Davenport, Iowa
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"A distinguished contribution to American architecture"

—so considered by the jury in awarding the Gold Medal Beauty Prize to the

PALMOLIVE BUILDING
Chicago

BEAUTIFULLY expressive of the commercial spirit at its best, the towering and distinctive Palmolive Building captured the gold medal awarded annually in the north central district of Chicago. Soaring 37 stories above the southeast corner of Michigan Avenue and Walton Place . . . buttressed by an interesting series of set-backs . . . the main structure will terminate in a beacon light 150 feet higher.

Although individuality was a purposeful achievement, those responsible for the design and erection of the structure also exercised greatest diligence in the selection of time-tried, quality-proved materials and equipment. Particularly does this obtain in the piping, the major tonnage being NATIONAL—

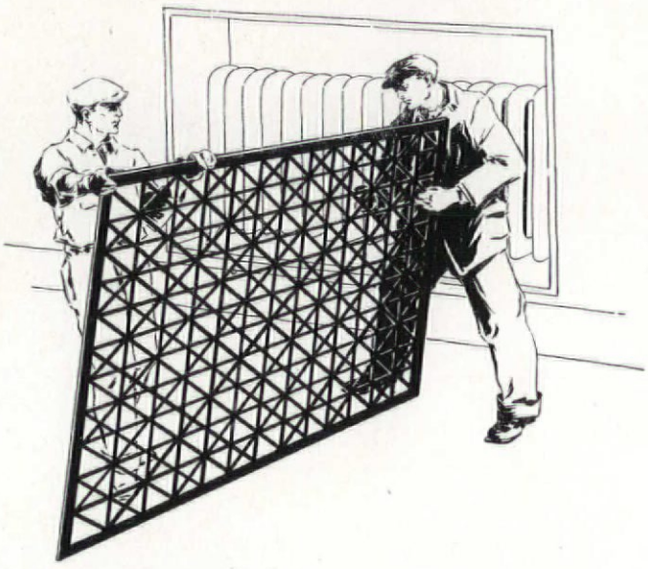
America's Standard Wrought Pipe

National Tube Company · Pittsburgh, Pa.
Subsidiary of United States Steel Corporation

PALMOLIVE BUILDING, Chicago
Architect: Holabird & Root, Chicago
General Contractor: Lundoff-Bicknell Co., Chicago
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NATIONAL PIPE

Clinton Grilles
always fit evenly



MEASUREMENTS for grille openings is last minute information and grilles themselves are often the last item to be installed. When grilles do not fit perfectly the final completion of the building is delayed while they are being adjusted.

When an architect orders a thirty-secondth of an inch in a dimension he gets it in Clinton Perforated Metal Grilles. There is never a spread, a warpage or buckle to consider. Clinton Grilles lie flat.

Finish, too, is controlled. Wissco Bronze made to match the hardware or to harmonize with the surroundings is always true to sample. Clinton Perforated Metal Grilles are satisfactory Grilles for the architect to specify.

The full list of stock dies and designs showing the possibilities of combination designs using stock dies is shown in our catalogue. We will be glad to send you this catalogue and have our local representative call.

See Sweet's Architectural and Engineering Catalogue for Specifications.

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QUIETNESS
at
LOW COST



T/N *for new homes and old*

T/N is quiet, remarkably so. And attractive. No ugly wall tank wastes wall space. Compact design combines tank and bowl in one streamlined piece of vitreous china . . . all white or colored.

T/N fits with ease under stairs, in corners, under windows. T/N cannot overflow, its flushing action is positive, a patented vent prevents backflow. And the cost is not high. See T/N at the Architect's Building, 101 Park Avenue, New York City. Or write for complete architect's filing data. W. A. Case & Son Manufacturing Co. Dept. 2010, 220 Delaware Ave. Buffalo, New York.

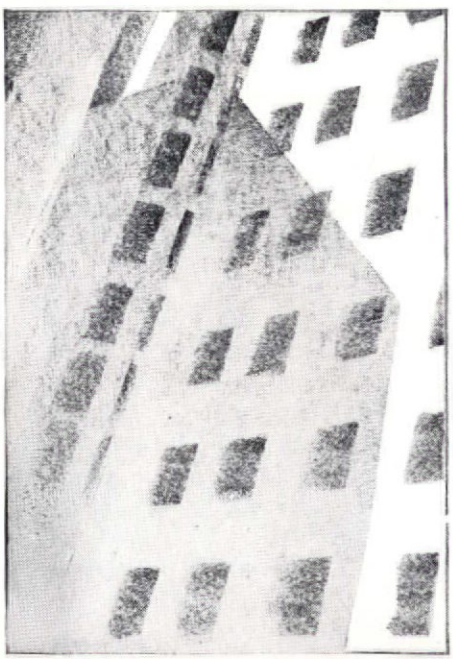
ONE PIECE WATER CLOSET SILENT NON OVERFLOW
Patented, Pat. Pend.

T/N

ONE PIECE WATER CLOSET



DOUBLING — TREBLING — QUADRUPLING THE INITIAL COST



—With each mounting story, the windows in America's skyscrapers multiply by the acre, matched only by the mounting cost of upkeep.

Windows are installed once. But they must be cleaned *hundreds of times*. That is why the maintenance cost of windows far transcends the initial cost of installation.

INSIDE CLEANING is obviously easiest and fastest, resulting in extraordinary economies.

In office buildings, schools, hospitals . . . . buildings the country over, Williams Reversible Windows have introduced a new standard of cleaning efficiency—and with it comes a corresponding reduction in cleaning costs—enabling these windows to actually pay for themselves within a few years.

Write for illustrated catalog.

THE WILLIAMS PIVOT SASH COMPANY
East 37th Street at Perkins Avenue, Cleveland

For Twenty-six years manufacturers and installers of Reversible Window Equipment

WILLIAMS REVERSIBLE WINDOW EQUIPMENT

Clean Your Windows from the Inside



Design No. 2555

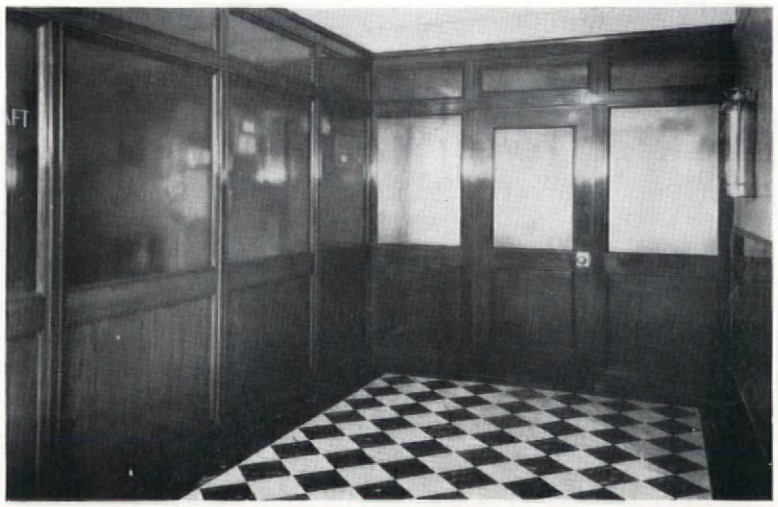
BUSINESS CHAIRS *of* PRESTIGE

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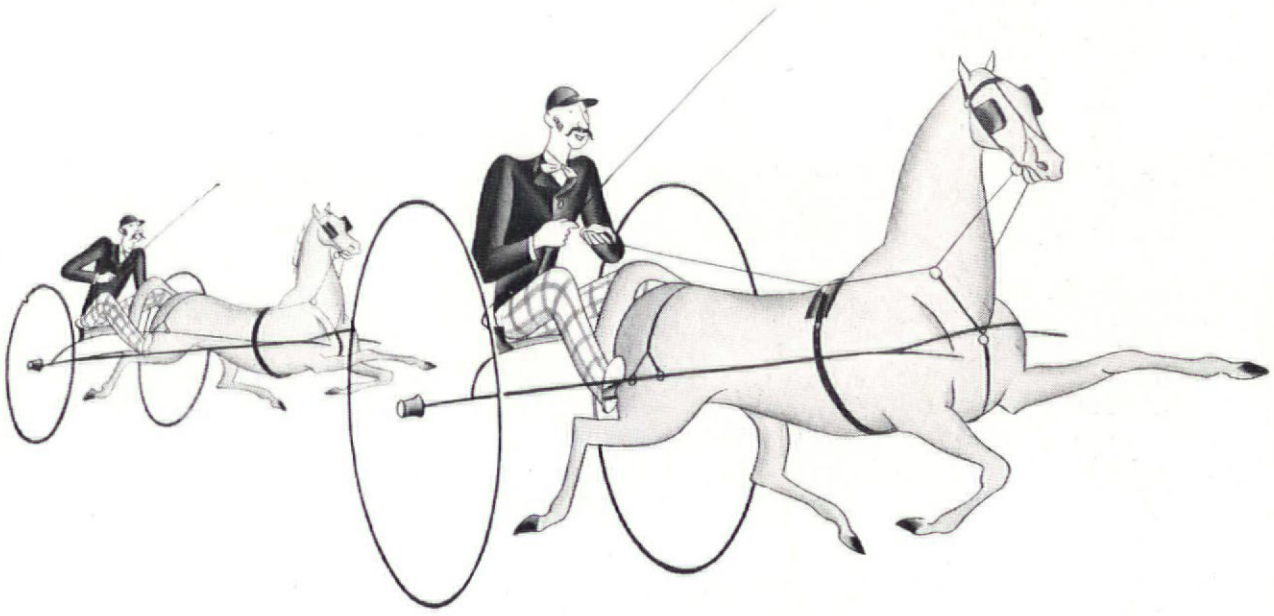
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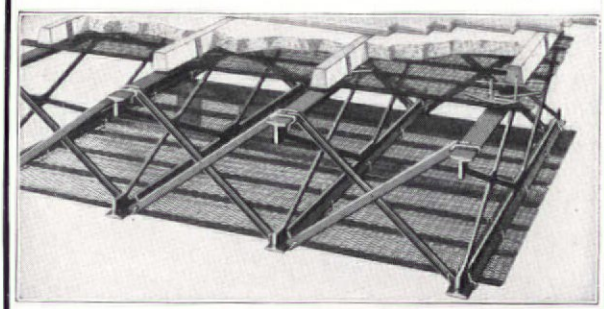
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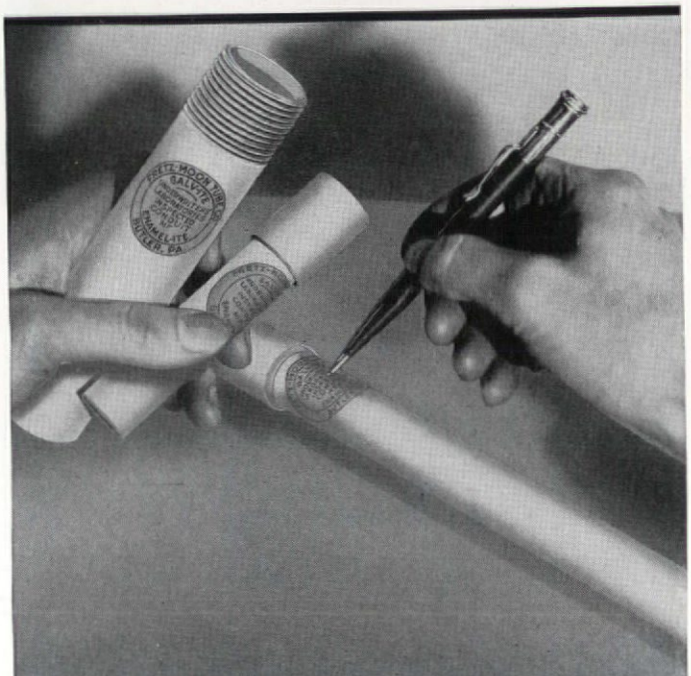
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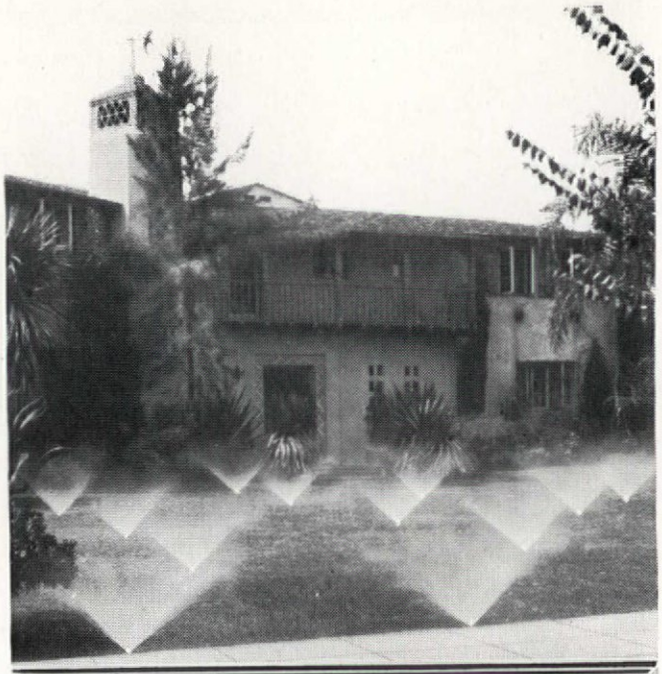
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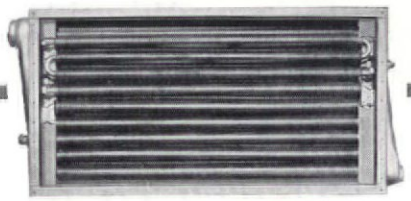
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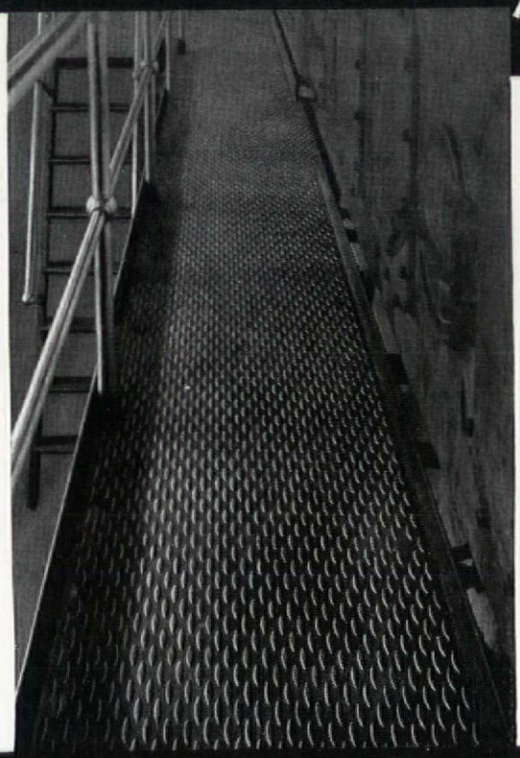
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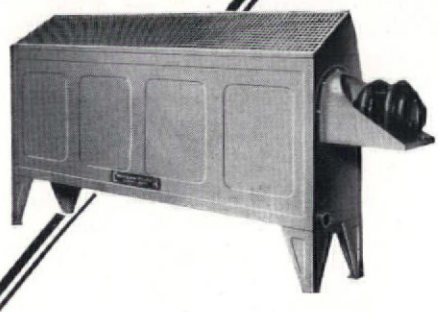
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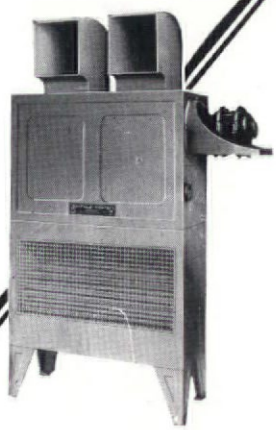


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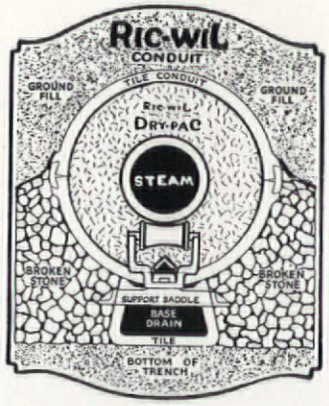
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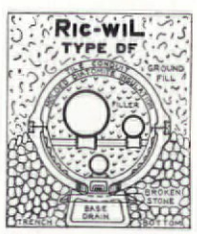
Cross section of Ric-WiL Type F Conduit with Dry-paC filler, single pipe installation. Note Base Drain carries the entire weight of pipe supports and pipe independent of the Conduit.

ENGINEERS generally agree that pipes carrying steam at high velocities vibrate continuously. For this reason the idea has prevailed that any loose insulating filler would settle. But Dry-paC, a patented waterproof insulating filler, will not settle as is demonstrated by the following test.



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To determine the effect of vibration on Dry-paC, ten feet of 2″ pipe was installed in Ric-wiL Type F Conduit and insulated with Dry-paC packed to standard density. One end of the pipe was fitted with a rocker arm which produced a longitudinal movement of 1/16″ 160 times per minute. The pipe was thus vibrated for three 8-hour days —a total of 24 hours or 230,400 vibrations. We believe this pipe movement far exceeded any vibration found in actual installations.



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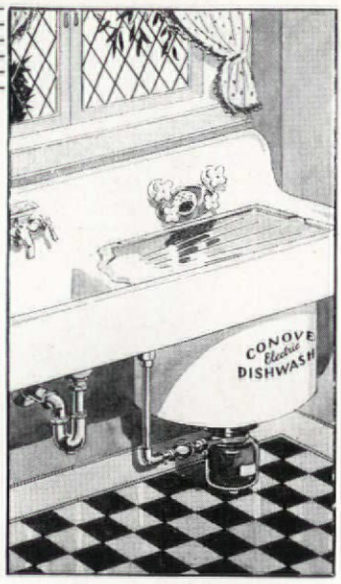
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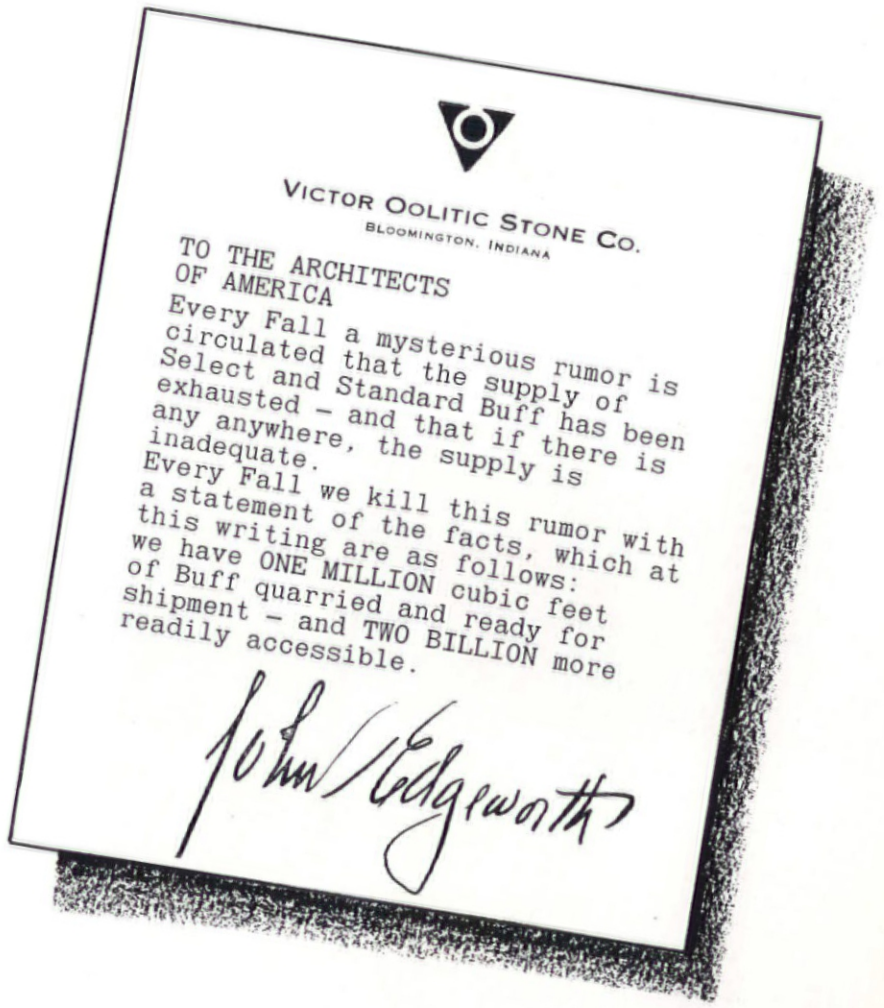
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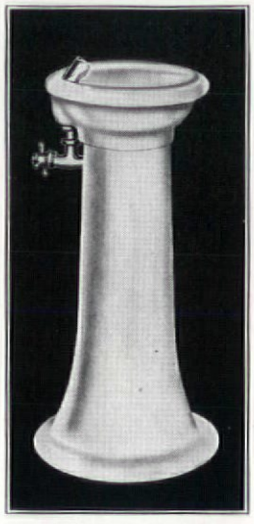
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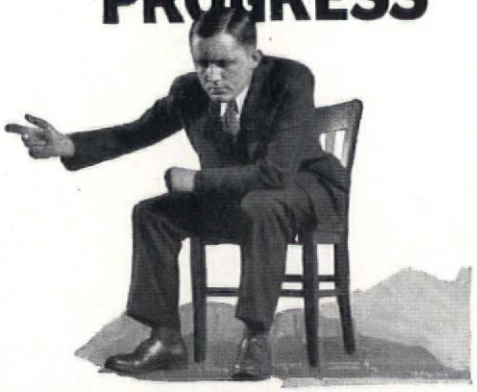
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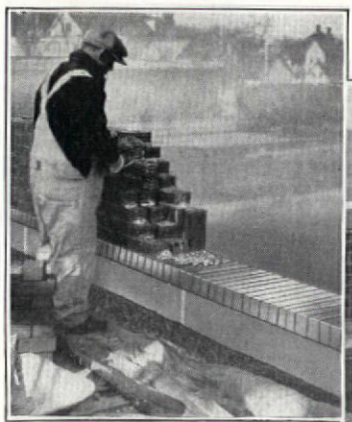
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Victoria Dispensing Cabinets are made of pressed steel in chrome, white enamel and other attractive finishes. Patented device permits cabinet to be opened to a horizontal position for convenient refilling. These modern cabinets can be locked to prevent theft of tissue.



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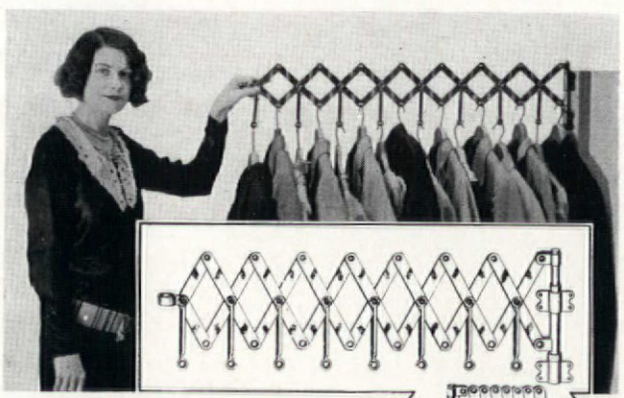
The modern way to dispense toilet tissue is the cabinet way! That is why Victoria interfold tissues and dispensing cabinets are used in leading buildings everywhere. Victoria tissues are always dependable in quality. Our cabinets check waste and protect the tissue from dust and unsanitary handling. Write for full information. The Victoria Paper Mills Co., Fulton, N. Y.

VICTORIA
CABINET TISSUES

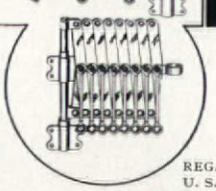


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It takes the place of closet space



REG. U. S. PAT. OFF.

75,000 Hood Extension Garment Hangers are in use in the U. S. A.—in homes, offices, apartments, hotels and wherever garments are hung. Architects and builders more than save their cost by reducing needed closet or clothes-hanging space. Handsome nickel or bronze finish, amply strong for any purpose with no overhead shelf support required. Hood Hangers add the appeal of a beautiful and useful fixture to any room or closet. They hold from 12 to 30 garments smoothly and without wrinkles; require only one-third the space needed for ordinary hangers. Write or wire for prices, descriptive booklet and name of your local dealer. Attractive offer to dealers and jobbers.

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"When closet space might seem inadequate, the addition of Hoods will fill the bill."—C. D. Hutsell, C. D. Hutsell Lumber Company, Dallas.

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. . . They last longer

. . . They save space

. . . They are rugged

. . . Clean . . . Quiet

Dayton Cog-Belt Drives meet the demand for more efficient power transmission—for more rugged drives—for drives with longer life—for drives that are clean and quiet and that require less space. Their superiority is due to many exclusive advantages found only in Dayton Cog-Belts—*the logical and correct V-Belts for all power transmission requirements.*

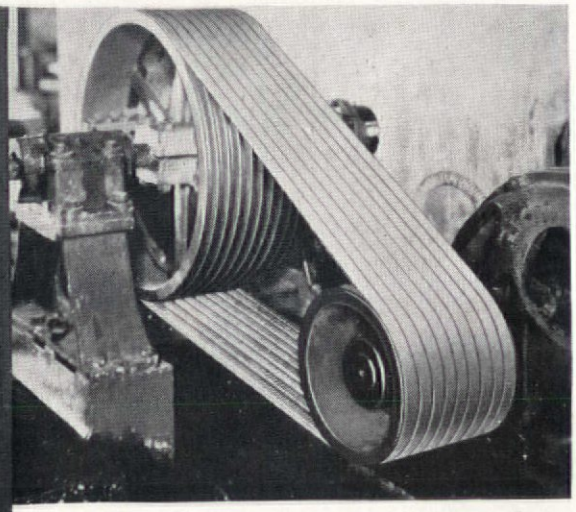
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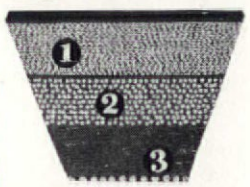
Dayton
COG-BELT DRIVES

O-115



Note the Revolutionary Construction of the Dayton Cog-Belt

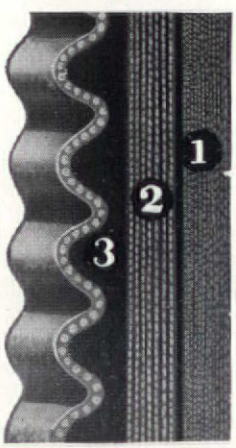
1 The outer section gives balance. Composed of numerous layers of vulcanized, strong bias-cut cord fabric. Bias-cut to accommodate bending without strain or distortion. This is another reason why Daytons don't heat and last longer than other belts.



Cross Sectional View

2 The *"Neutral axis"* or *strength* section, extends across the entire width of the belt. Die-cut and pre-stretched *permanently* by a patented and exclusive Dayton process. That's why Daytons have a firmer grip, smoother action, and require less servicing in adjustments.

3 The *cog construction* permits Dayton Cog-Belts to flex naturally and easily around even the smallest pulleys without distortion, buckling or rippling. Dayton's cog construction is an exclusive feature. It is found *only* in Dayton Cog-Belts.



Side View

Complete Drives—Pulleys and Belts—in stock—all ratios 2 H. P. to 100 H. P.

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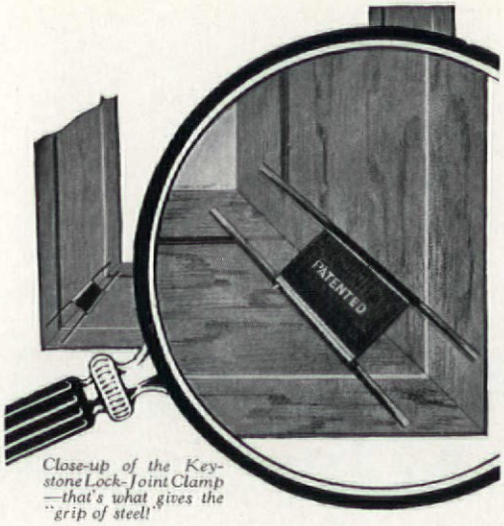
BEL-SUN-LITE

Catalog 30

EVERY architect and engineer who designs public buildings should have this volume in his files. While it is primarily a theatre lighting equipment book, it is for that reason most useful in planning hotels, showrooms, arenas, banks and the like. Lighting of theatrical nature is rapidly gaining favor in those and other fields.

With the Bel-Sun-Lite Catalog 30 and a little ingenuity results of beauty to your eyes' content and your reputation's enhancement are certain. You may have a copy of Catalog 30 in return for a short note. Dictate it now.

Belson Manufacturing Co.
812 Sibley St., Chicago, Ill.



Close-up of the Keystone Lock-Joint Clamp —that's what gives the "grip of steel!"

The Keystone Lock-Joint Clamp —(used on all our erected trim and cabinet work without additional cost to the purchaser and obtainable only on Hyde-Murphy products) — is a STEEL GRIP clamp that absolutely prevents a mitre joint from coming apart, whatever the condition of climate or temperature.

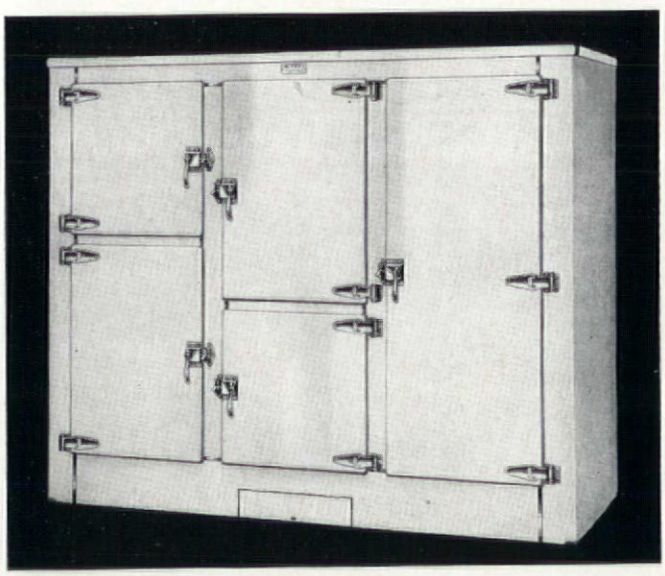
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is a powerful spring steel flanged clip, tapered and driven along convex tapering grooves at every mitered joint. This clamp, gripping together edges already locked by a justifying, tightly fitted and well glued hardwood spline inside each corner, permanently prevents gaping joints and the effects of warping and shrinkage. Use HYDE-MURPHY Erected Trim for better jobs and saving of time—it all comes with KEYSTONE LOCK-JOINT CLAMPS without extra cost.

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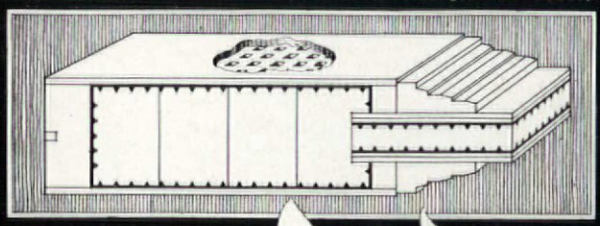
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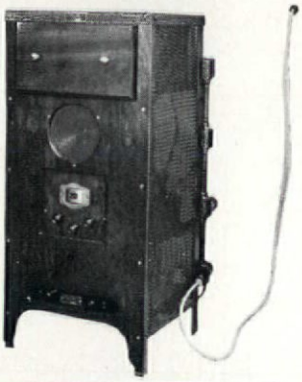
AMERICA'S OLDEST VENEERED DOOR SPECIALISTS



UNIQUE DISTINCTION
in this HOTEL RADIO Equipment

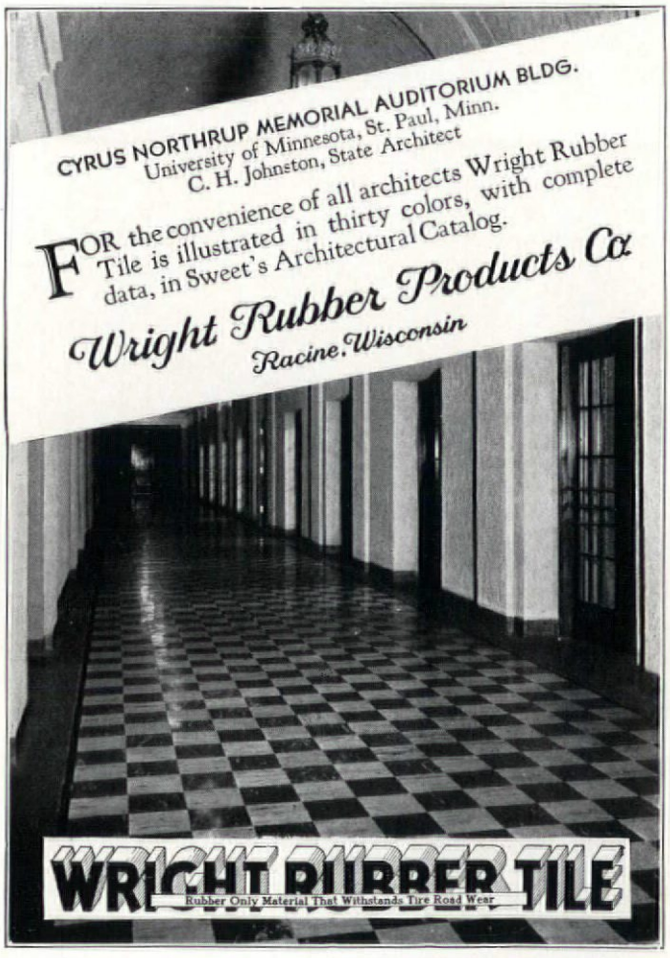
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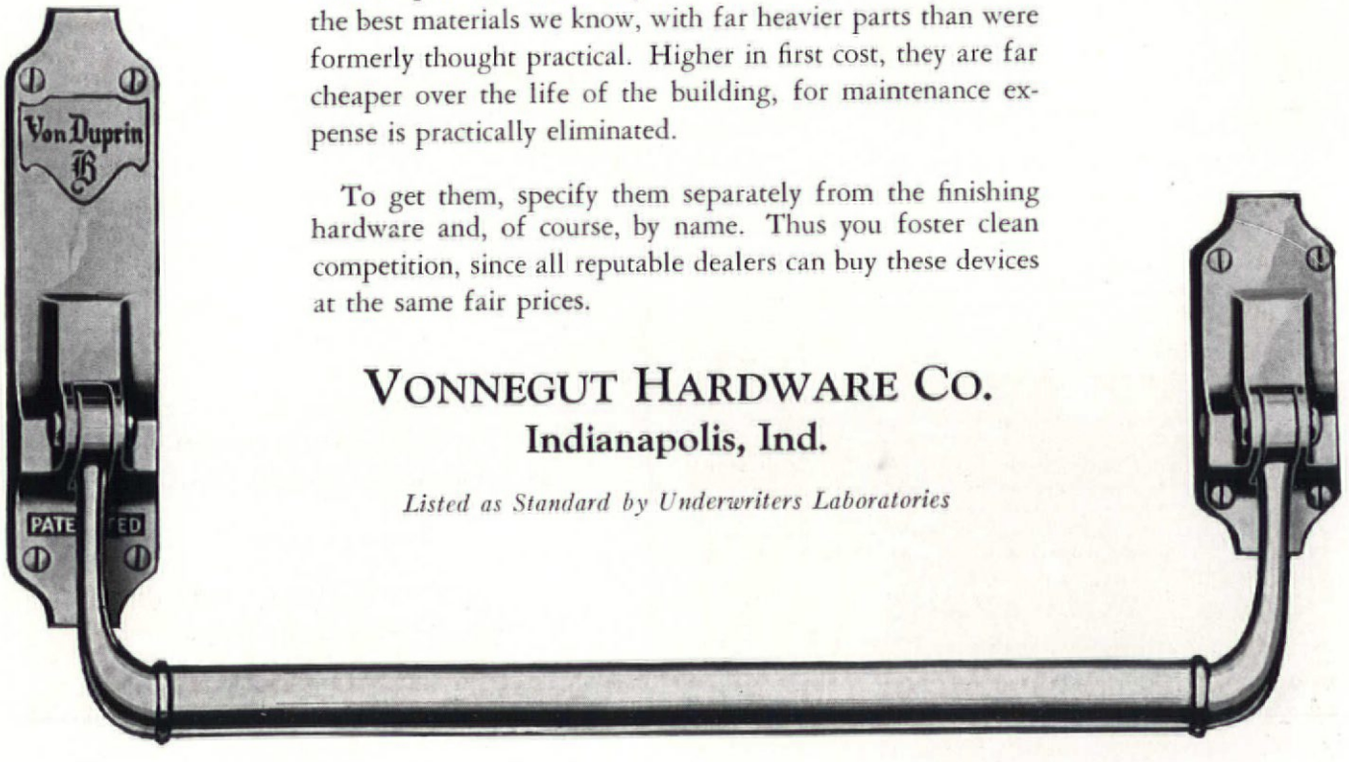
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Sweet's
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To the man who admires good craftsmanship, there is great satisfaction in things that are made as strong as men know how to make them; there is something close to exaltation in the feeling of sheer strength, of durability, of dependability. Here is something that will LAST!

For such men we make the new series genuine Type "B" Von Duprin devices. They are made very carefully, from the best materials we know, with far heavier parts than were formerly thought practical. Higher in first cost, they are far cheaper over the life of the building, for maintenance expense is practically eliminated.

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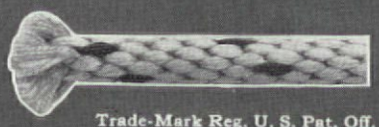
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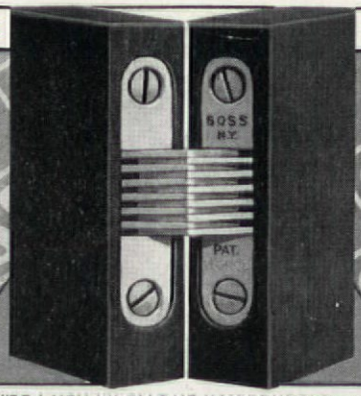
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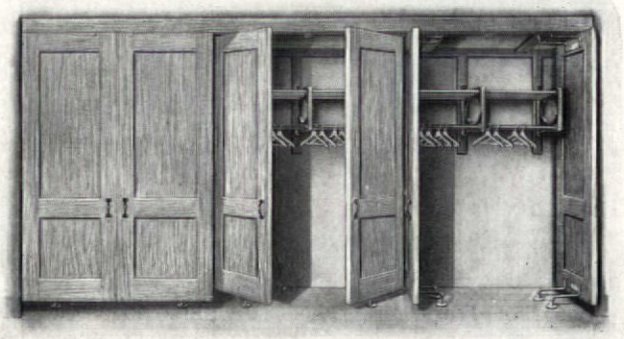
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HERE is an ideal school class-room wardrobe, low in cost yet meeting every demand of the most exacting. This wardrobe is made for plaster ends, backs, and ceilings; no jambs nor trim being required. When so desired blackboards can be furnished for the doors, giving a continuous blackboard surface.

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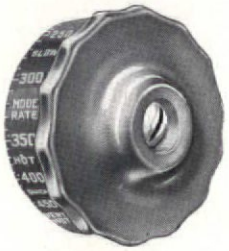
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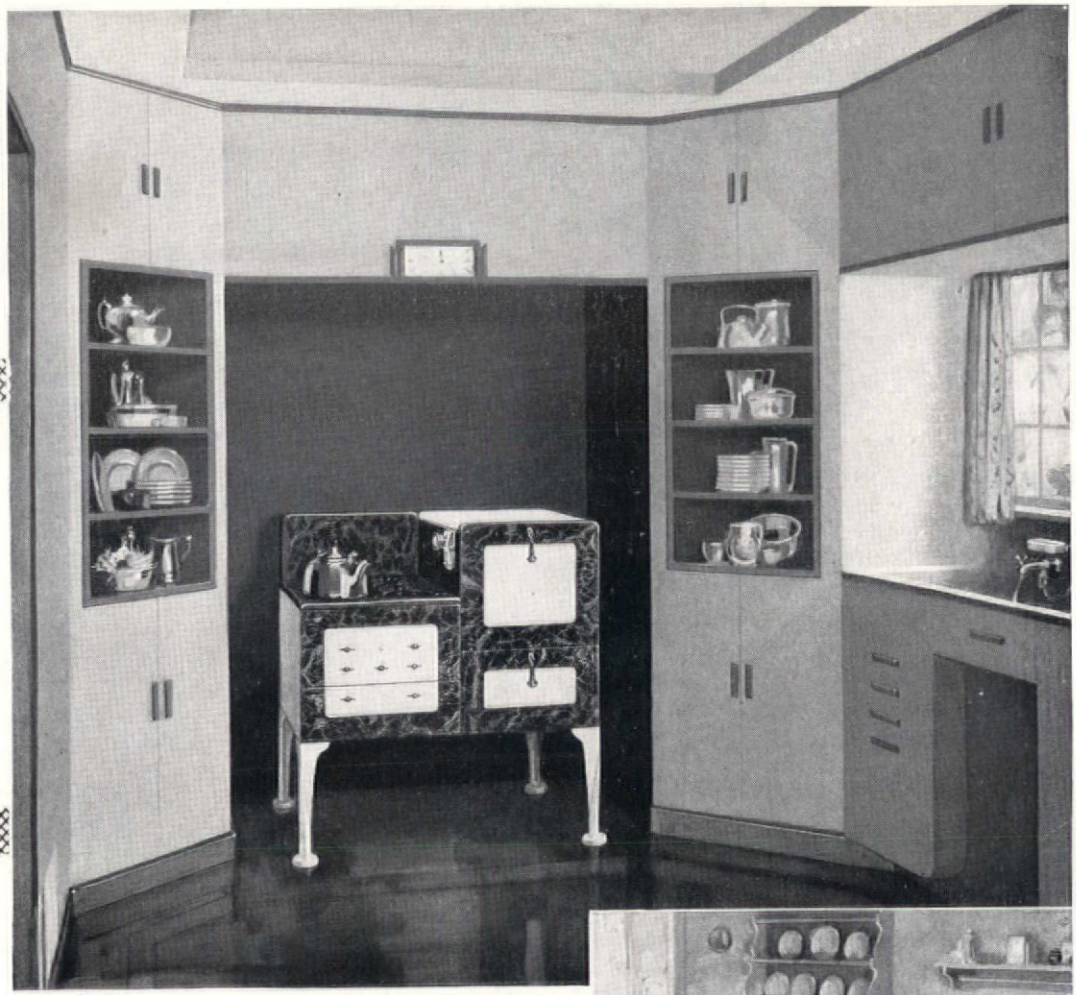
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TIFFIN Model CASH PRICE $99.75 ($112.75 West of the Rockies)



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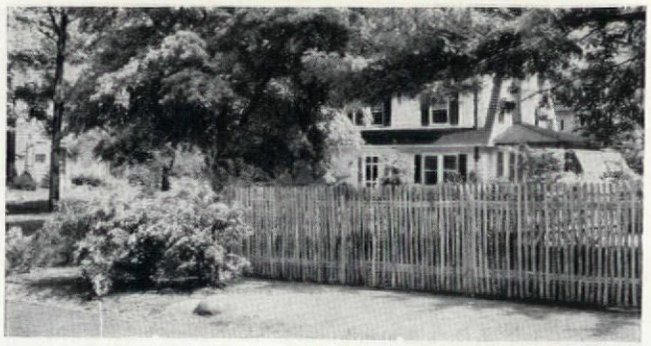
MAGIC CHEF is sold by dealers and gas companies wherever gas is available. It can also be used in non-gas-served territories with tank gas service. Write for full information.

Send name and address for free copy of booklet showing modern kitchens.

Magic Chef
AMERICAN STOVE COMPANY

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Our Complete Catalogue is in Sweet's for 1930 . . . . Pages D4438-4453

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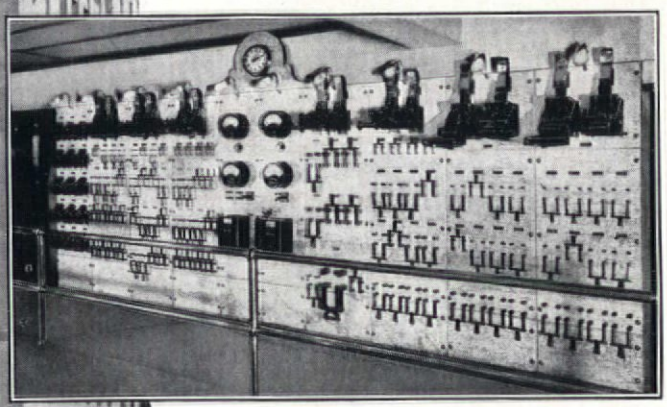
Manufacturers of Bathroom Furnishings

MERIDEN, CONN.

New York Office....CHARLES PARKER CO., Inc. 25 MURRAY STREET

—for instance the Civil Courts Building





Civil Courts Building, St. Louis, Mo.
The Plaza Commission, Inc., Architects
E. A. Koeneman Electric Co., St. Louis
Elect. Cont.

The building of fine switchboards and cooperating in the engineering of them has been an (FA) activity for nearly a half century, bringing to (FA) unquestioned leadership in this work.

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231 Congress St.

BUFFALO, N. Y.
Ralph E. Jones,
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Major Equipment Co., Inc.
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Alex. Hibbard, Inc.
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Gen. Sales Office,
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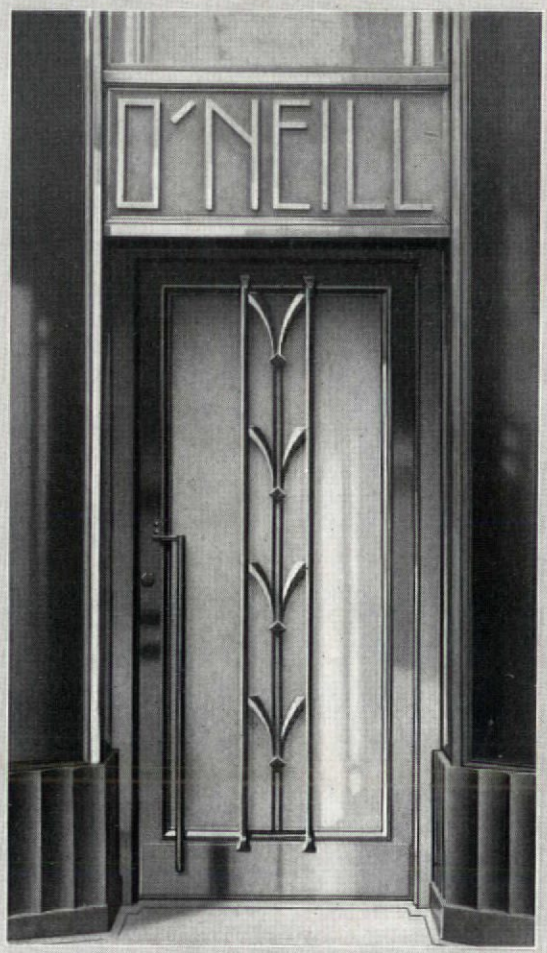
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Architects, Holabird and Root

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RUSTLESS METAL STORE FRONTS, WINDOWS and DOORS
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CLASSIFIED DIRECTORY OF ADVERTISERS

Alphabetical Index to Advertisers, Page 192

After reviewing advertisements in this issue—use Sweet's Architectural Catalogues for 1930 for catalogue and specification information on the products of the most of the manufacturers.

Acid Proof Chemical Stoneware
Knight, Maurice A.

Acoustics
Armstrong Cork & Insulation Co.
Boston Acoustical Eng. Division of Housing Company
Guastavino, R., Co.
Johns-Manville Corp.
U. S. Gypsum Co.

Air Conditioner
American Blower Co.
Buffalo Forge Co.
Doherty-Brehm Co.
Lewis Corporation

Air Washer
Buffalo Forge Co.

Aluminum
Aluminum Co. of America

Arc Welding—Lincoln Electric Co.

Architectural Supplies
Higgins, Chas. M., & Co.

Artstone—Rackle, George, & Sons Co.

Asbestos—Johns-Manville Corporation

Basement, Windows—Steel
Detroit Steel Products Co.
Truscon Steel Company

Bathroom Accessories
Parker Charles Company

Beads—Corner Metal
Milcor Steel Co.
Truscon Steel Company
Wheeling Corrugating Co.

Beams, Angles, Channels, Etc.
Bethlehem Steel Co.
Carnegie Steel Company
Jones & Laughlin Steel Corp.

Belts—Dayton Rubber Mfg. Co.

Blackboards—Weber Costello Co.

Boilers—American Gas Products Co.
American Radiator Co.
Dahlquist Mfg. Co.
Heggie-Simplex Boiler Co.
Pierce, Butler & Pierce Mfg. Co.
Smith, H. B., Company, The, Inc.
Titusville Iron Work Co.
Wood Gar Engineering Co.

Bolts—Door—Corbin, P. & F.

Brass and Bronze
See "Ornamental Metal"

Brick—Finzer Bros. Clay Co.

Bridges—Steel—American Bridge Co.
Bethlehem Steel Co.

Building Paper
Angier Corporation
Natural Steel Fabric Co.

Buildings—Steel
Carnegie Steel Company
Nat'l Assoc. of Flat Rolled Steel Mfrs.

Butts—Corbin, P. & F.
Stanley Works

Cabinet Work—Hyde-Murphy Co.

Cabinets—Kitchen
Olean Metal Cabinet Works, Inc.

Cabinets—Medicine—Parker Charles Company

Cabinets—Toilet Paper
Victoria Paper Mills Co.

Casement Operators—Rixson, Oscar C., Company

Casements—Bayley, William, Co.
Crittall Casement Window Co.
Detroit Steel Products Co.
International Casement Co.
Mesker Bros. Iron Company
Truscon Steel Company

Cast Stone
Cast Stone Institute

Cellar Drainer
Penberthy Injector Co.

Cement—Louisville Cement Company
Medusa Portland Cement Co.
Portland Cement Association
Universal Atlas Cement Co.

Cement White
Medusa Portland Cement Co.

Chain Sash—American Chain Co., Inc.
Detroit Steel Products Co.
Smith & Egge Mfg. Co.

Chairs—Marble, B. L., Chair Co.

Channels—Carnegie Steel Co.
Concrete Engineering Co.
Jones & Laughlin Steel Corp.

Church Memorials
American Seating Company

Clamps—Lock Joint
Hyde-Murphy Co.

Cleaning Systems
Spencer Turbine Co.

Clocks, Electric
Landis Eng. & Mfg. Co.

Columns, Porches, Etc.
Hartmann-Sanders Co.
Union Metal Mfg. Co.

Concrete Accelerator
Master Builders Co.
Solvay Sales Corp.

Concrete Construction—Reinforced
American Steel & Wire Company
Concrete Engineering Co.
Truscon Steel Company

Concrete Hardener
Master Builders Co.
Sonneborn, L., Sons, Incorporated
Solvay Sales Corp.

Concrete Surface Treatment
Master Builders Co.
Solvay Sales Corp.

Conduit for Underground Heating Pipes
Ric-wiL Company

Conduits
Fibre Conduit Co.
Fretz-Moon Tube Co.
Garland Mfg. Co.

Conduo-Base
Conduo-Base Co.

Cork Tile Flooring
Armstrong Cork Company, Floor Division
Congoleum-Nairn, Inc.

Corkboard
Armstrong Cork & Insulation Co.

Covering—Pipe and Boiler
Armstrong Cork & Insulation Co.
Johns-Manville Corporation
Ric-wiL Company

Dishwasher—Electric
Conover Company

Door Closers—Corbin, P. & F.
Norton Door Closer Co.
Sargent & Company

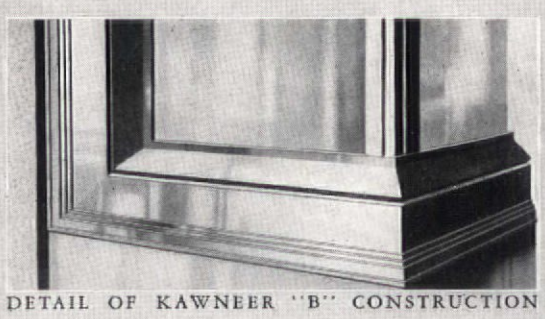
Door and Window Frames
Andersen Frame Corp.

STORE FRONTS



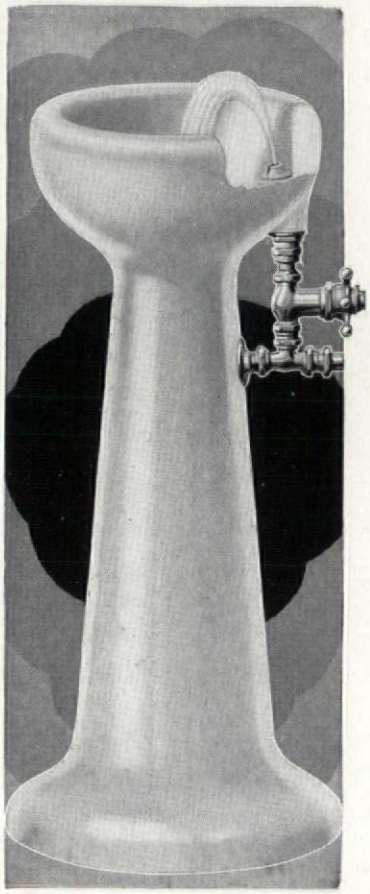
QUIGLEY BUILDING, CHICAGO
Architect, Jos. T. Fortin. Associate, David Adler

CUSTOM-BUILT
by a corps of skilled craftsmen. Every rolled, extruded or cast unit is carefully executed and assembled by this trained staff, assuring the architect a faithful rendering, in metal, of his design. Upon request we will send new free Book of Modern Store Front installations, also description and F. S. Details of "B" Construction.



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R-S Drinking Fountains are in keeping with the lines of present day architecture—pleasing, clean in design—they add much to public buildings, hotels, schools and other institutions.

There are many types and styles of R-S Fountains; they are now available in colors and all have the R-S Vertico Slant feature. Let us give you full particulars. Write for catalog.

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Dahlstrom Metallic Door Co.
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Hyde-Murphy Co.
International Casement Co.
Kawneer Company
Kinnear Mfg. Co.
Michaels Art Bronze Co.
Peelle Company, The
Roddis Lumber & Veneer Co.
Sanymetal Products Co.
Security Fire Door Co.
Thorp Fire Proof Door Company
United Metal Products Co.
Weis, Henry, Mfg. Co.
Wilson, J. G., Corp.
Zouri Co., The

Drains—Josam Mfg. Co.

Drawing Inks
Higgins, Chas. M., & Co.

Drives—Cog Belt
Dayton Rubber & Mfg. Co.

Electric Switches
Hart & Hegeman Mfg. Co.

Electrical Equipment
Adam, Frank, Electric Co.
American District Tel. Co.
Bryant Electric Company
Connecticut Tel. & Elec. Corp.
Fibre Conduit Co.
General Electric Company
Graybar Electric Co.
Hart & Hegeman Mfg. Co.
Holtzer-Cabot Electric Co.
Imperial Electric Co.
Lincoln Electric Co.
National Electric Light Association
Westinghouse Electric & Mfg. Co.

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Tyler Company

Elevator Doors
Peelle Company, The
Security Fire Door Co.
Tyler Company
United Metal Products Co.

Elevator Inclosures
Tyler Company
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Elevators
Otis Elevator Company
Westinghouse Electric Elevator Co.

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Du Pont de Nemours, E. I., & Co., Inc.
Pratt & Lambert, Inc.
U.S. Gutta Percha Paint Co.

Expanded Casings—Milcor Steel Co.

Expanded Metal
Truscon Steel Company

Fence Post—Steel
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Fence—Woven Wood
DuBois Fence & Garden Co., Inc.
Reeves, Robert C., Co.

Fences—American Steel & Wire Co.
Fiske, J. W., Iron Works

Finishing Lime
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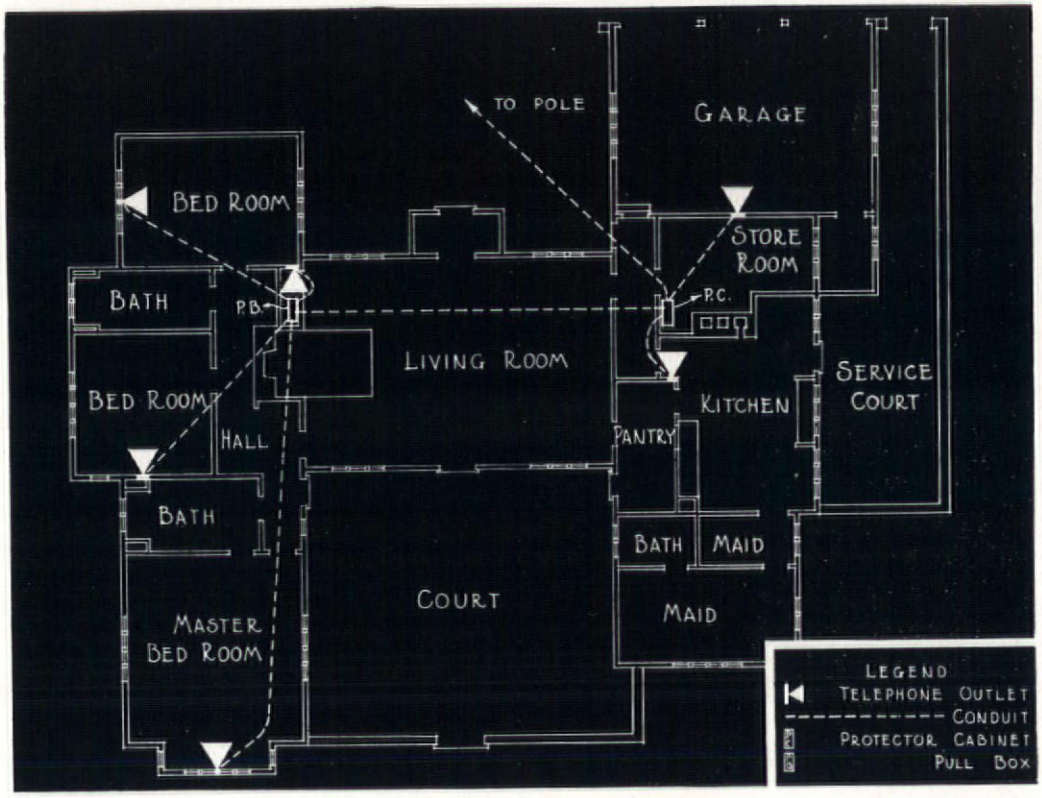
Fire Exit Devices
Vonnegut Hardware Company

Fire Extinguishers
Pyrene Mfg. Co.

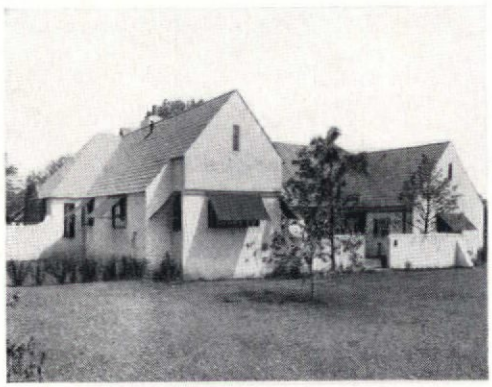
Fireplace Construction—Covert, H. W., Co.

Fireproof Doors, Shutters and Windows
Compound & Pyrono Door Co.
Dahlstrom Metallic Door Co.
Detroit Steel Products Co.
Kawneer Company
Mesker Bros. Iron Company
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Thorp Fire Proof Door Company
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The modern Home provides for both Present and Future Telephone needs



Complete telephone convenience is provided in the residence of Dr. George W. Hawley, Bridgeport, Connecticut, by six telephone outlets, including one in the garage. The telephone wiring is carried in conduit hidden in the walls and floors. Fred C. Johnson, Architect, *Bridgeport.*



Provision for complete telephone convenience is an important and attractive feature in the design of the modern residence. Telephones through out the house, placed where they will save steps and time, greatly increase the comfort and livability of the home, and help to simplify household management.

Planning in advance for the telephone arrangements has many advantages. It provides conduit, concealed within the walls and floors during construction, and telephone outlets in all the important rooms. This gives improved appearance, guards against certain types of service interruptions and provides a flexibility of telephone service that is most desirable.

Although at first only such outlets as may be needed immediately are used, the others are always available for possible rearrangement of the service to take care of the growing requirements of the family.

Your local Bell Company will gladly help you plan the telephone arrangements for new and remodeled residences. It will also arrange for conferences to explain to your clients the telephone equipment which serves different household needs. No charge is made for this advisory service. Just call the Business Office.



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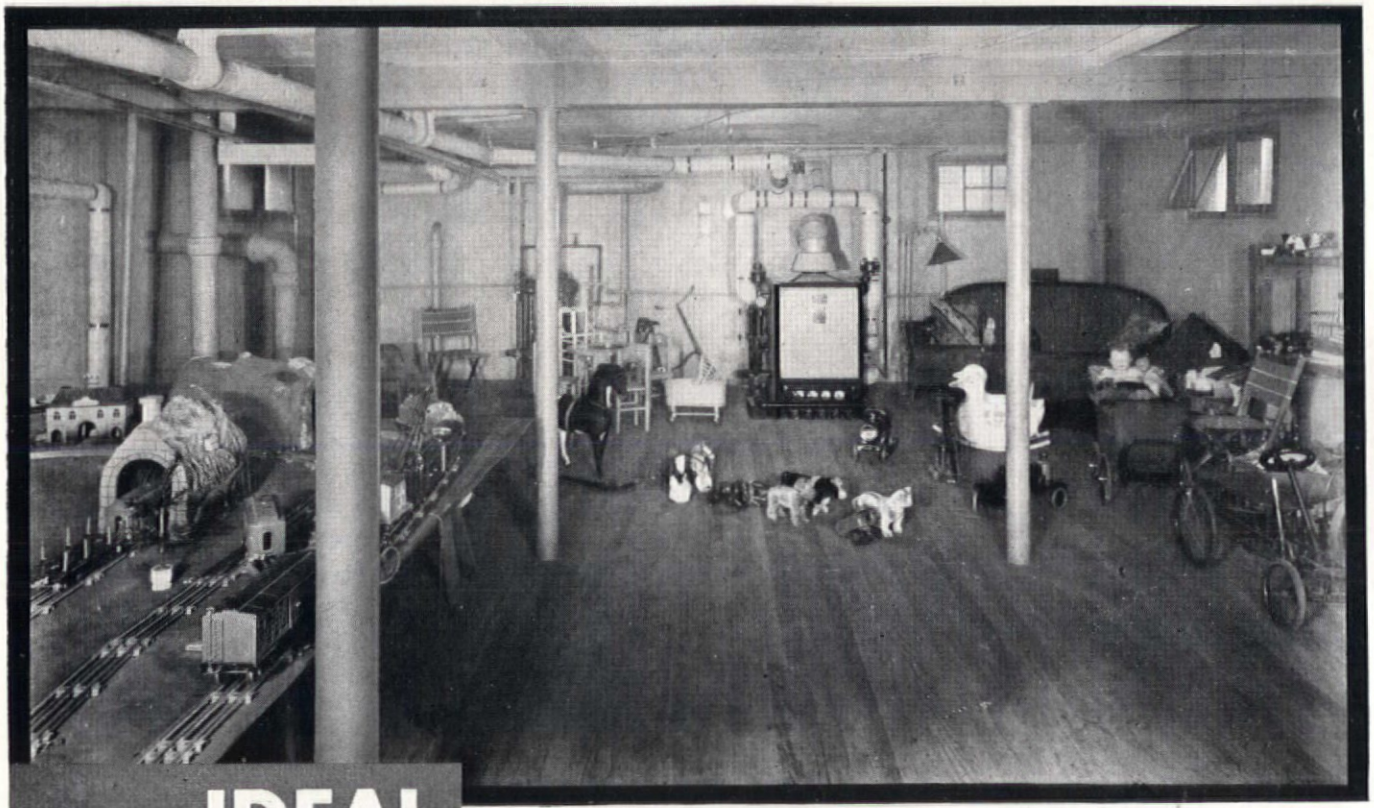
Fireproofing
See "Concrete Construction," "Covering, Pipe and Boiler," "Fireproof Doors, Shutters and Windows," "Lath-Metal,"
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Cheney Company
Floor Clips
Bull Dog Floor Clip Co.
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Floor Hardeners
Master Builders Co.
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Floor Plates—Alan Wood Steel Co.
Flooring
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Master Builders Co.
Norton Company
Oak Flooring Mfrs. Assoc. of U. S.
Stedman Rubber Flooring Company
Structural Gypsum Corp.
Wright Rubber Products Co.
Flooring—Composition
Congoleum-Nairn, Inc.
Flooring—Grid
Snead & Company
Flooring—Wood Block—Builtup
Carter Bloxonend Flooring Co.
Floors—Fireproof—Alan Wood Steel Co.
Structural Gypsum Corp.
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Century Brass Works, Inc.
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Taylor, Halsey W.

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Hartmann-Sanders Company
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American Radiator Co.
Dahlquist Mfg. Co.
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American Window Glass Co.
Pittsburgh Plate Glass Co.
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National Bldg. Granite Quarries Assn.
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Highton & Sons, Wm., Division Hart & Cooley Mfg. Co.
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Snead & Company
Grilles—General Bronze Corp.
Wickwire-Spencer Steel Co.
Gypsum Plaster—See Plaster, Gypsum
Gypsum Slabs
Structural Gypsum Corp.
U. S. Gypsum Co.
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Extension Garment Hanger Co.
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Sargent & Company
Soss Manufacturing Company
Stanley Works
Vonnegut Hardware Company
Weis, Henry, Mfg. Co.
Yale & Towne Mfg. Co.
Heat Insulation—Johns-Manville Corporation
Ric-wiL Company
Heat Regulator Oven—American Stove Company



When you plan a modern home . . .

BE SURE THE HEATING PLANT IS MODERN TOO



IDEAL GAS BOILERS

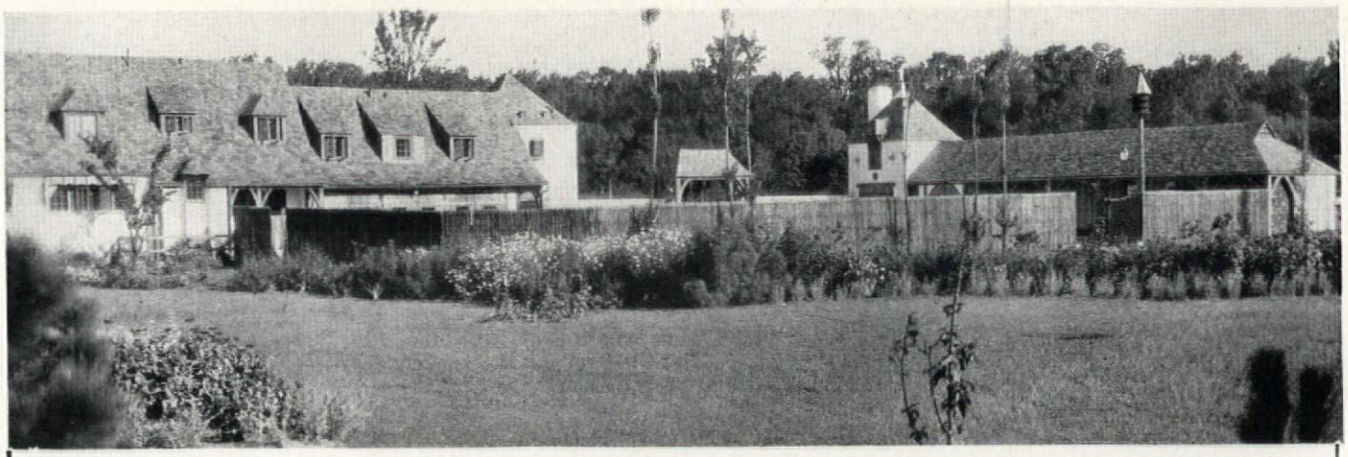
- Five years from now will your homes be as modern as they are today? Will the heating plants be the modern plants of that day?
- Ideal Gas Boilers are 100% automatic and will be as modern five years from today as they are now.
- Gas rates for house heating are being steadily reduced which is one of the reasons for the tremendous popularity and growth of automatic heating that *is* 100% automatic.
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The interest and harmony of this grouping has been accentuated by making Dubois part of the architectural scheme. Architects are now including Dubois in their specifications for its value in producing a pleasing ensemble.

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Milcor Steel Co.
National Steel Fabric Co.
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Adams, Frank, Electric Co.

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Armstrong Cork Company, Floor Division
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Nat'l Assoc. Flat Rolled Steel Mfrs.

Locks—Corbin, P. & F.
Russell & Erwin Mfg. Co.
Sargent & Company
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Lumber—See Woods

Mail Chutes—Cutler Mail Chute Co.

Mantels—Artificial Stone
Jacobson Mantel & Ornament Co.

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Vermont Marble Co.



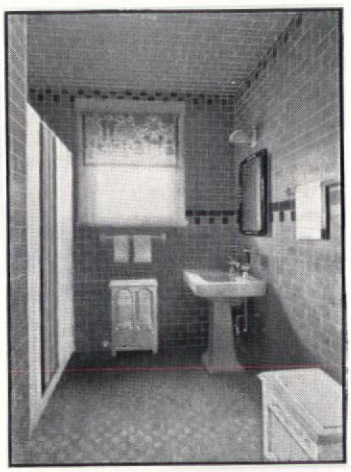


WOMEN ARE PROUD OF THEIR STEEL EQUIPPED HOMES

IT is woman's delight to escort visitors through her home . . . to point out with pride the modern, sanitary and labor-saving steel equipment, the graceful steel furniture . . . to credit her own wise judgment in specifying materials of steel that have emancipated her from drudgery.

From bedroom to basement the modern trend is toward steel. For steel is lasting; it lends itself to beautiful design and enduring finishes. It is sanitary and resistant to fire. Its new, fresh appearance lasts throughout the years.

Architects and builders who have the saleability of their residential structures in mind will find it worth while to get all the facts about saving while improving with built-in steel products for the home. Complete information will be sent upon request. Trade Research Division, National Association of Flat Rolled Steel Manufacturers, 511 Terminal Tower Building, Cleveland, Ohio.



In the bathroom indestructible steel medicine cabinets, steel tile, radiator enclosures, clothes hampers and shower stalls, lend an atmosphere of beauty and cleanliness.



The modern basement with enameled steel laundry trays, enameled steel washing machine, steel clothes dryer and furnace, shelving and cupboards, plays an important part in reducing to a minimum the housewife's labor.

Save Time Labor Dirt with Steel Household Equipment

THE Cleveland Club, Cleveland, O., occupies a prominent position on Carnegie Ave., not far from the University grounds. The architects are Frank B. Meade and James Hamilton, and Thompson-Starrett Co., Inc., were the contractors. The upper trim, starting with the balustrade at the fourth floor, is all RACKLE ARTSTONE and the clean, sharp, accurate outlines secured by its use in the upper stories, are an unusually happy illustration of the way in which this practical and beautiful product is widely used to enhance the striking effect of fine design.

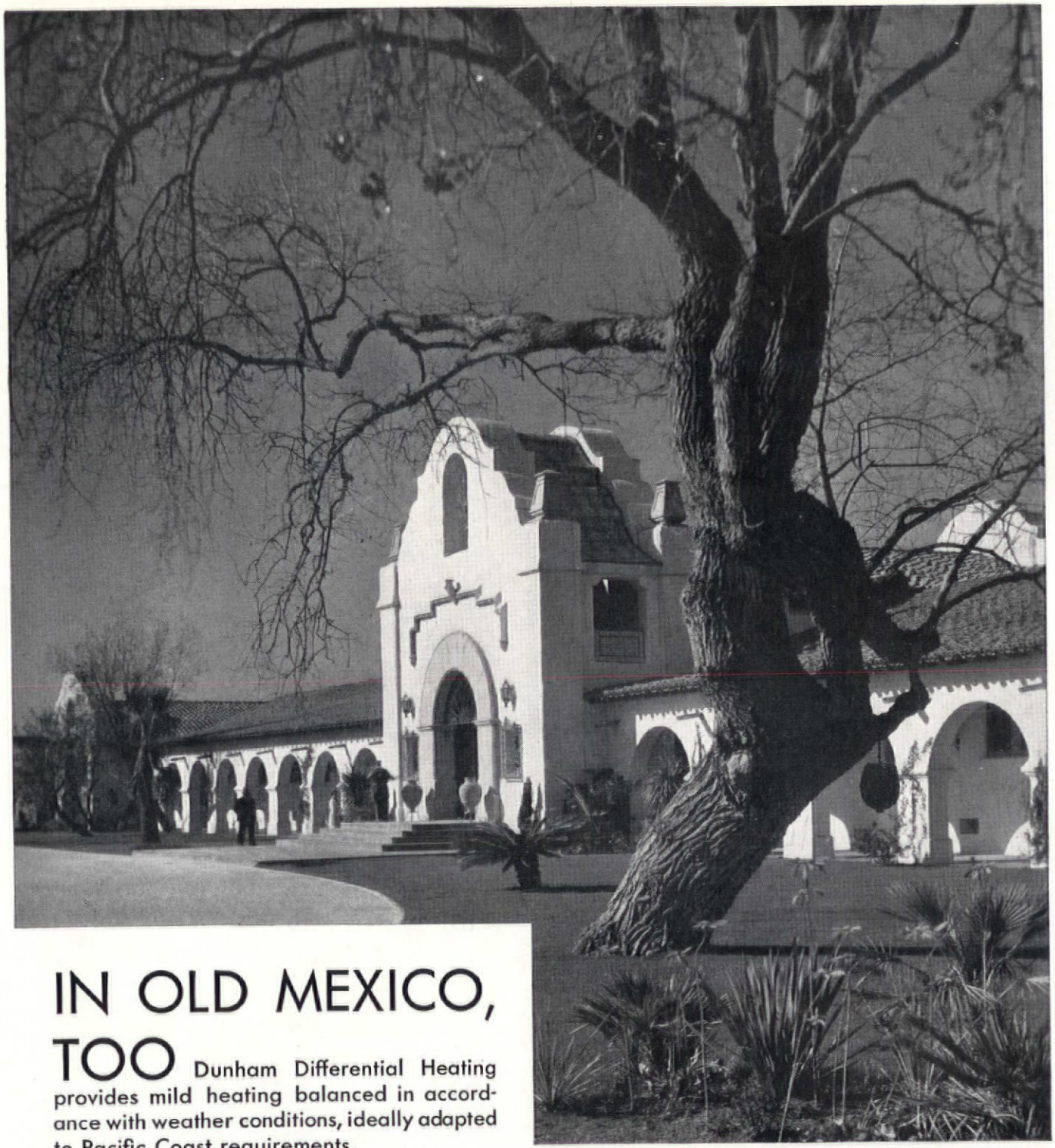
THE GEORGE RACKLE & SONS COMPANY
CLEVELAND, OHIO
Established 1870



Our catalogue is in Sweet's—pages A 526-527

RACKLE ARTSTONE

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American Seating Company
Metal Corner Bead
Milcor Steel Co.
Truscon Steel Company
Mineral Wool—U. S. Mineral Wool Co.
Monel Metal
International Nickel Co., Inc.
Mortar—Louisville Cement Co.
National Lime Association
National Mortar & Supply Co.
National Steel Fabric Co.
Nirosta Metal—Krupp Nirosta Co., Inc.
Oil Burners
Johnson, S. T., Co.
Wood Gar Engineering Co.
Ornamental Metal
Aluminum Co. of America
American Brass Co.
Fiske, J. W., Iron Works
General Bronze Corp.
Michaels Art Bronze Co.
Smyser-Royer Company
Tyler Company
Paints—Aluminum Co. of America
Berry Brothers
Cabot Samuel, Inc.
Du Pont de Nemours, E. I., & Co., Inc.
National Lead Co.
Pittsburgh Plate Glass Co.
Pratt & Lambert, Inc.
U. S. Gutta Percha Paint Co.
Panelboards
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General Electric Co.
Trumbull Electric Mfg. Co.
Westinghouse Electric & Mfg. Co.
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Victoria Paper Mills Co.
Partitions
National Steel Fabric Co.
Sanymetal Products Co.
Wilson, J. G., Corp.
Partitions—Toilet
Sanymetal Products Co.
Weis, Henry, Mfg. Co., Inc.
Piling—Concrete
MacArthur Concrete Pile Corp.
Raymond Concrete Pile Co.
Piling—Steel Sheet
Bethlehem Steel Co.
Carnegie Steel Co.
Pipe—Bethlehem Steel Co.
Bridgeport Brass Co.
Jones & Laughlin Steel Corp.
National Tube Company
Reading Iron Company
Republic Steel Corp.
Spang Chalfant & Co., Inc.
Youngstown Sheet & Tube Co.
Plate Glass—Pittsburgh Plate Glass Co.
Plaster Bond—Cabot, Samuel, Inc.
Plaster Gypsum—U. S. Gypsum Co.
Plaster Key—Vortex Mfg. Co.
Plaster—Ornamental
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Dunham Differential Heating provides mild heating balanced in accordance with weather conditions, ideally adapted to Pacific Coast requirements.

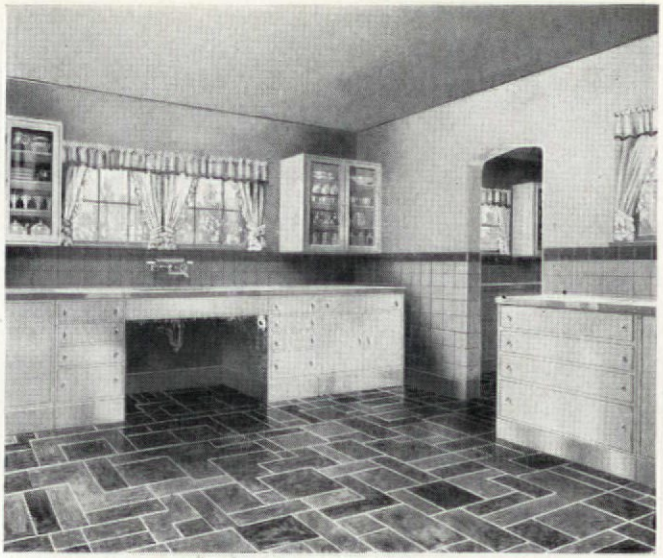
The Differential system control of steam temperatures gives ample heat for the chill of evening and early morning hours, yet there is no wasteful overheating during the balmy hours of midday. It cuts fuel costs 25 to 40%. C. A. Dunham Co., Dunham Building, 450 E. Ohio St., Chicago, Ill. Western Sales Offices: San Francisco, Los Angeles, Portland, Spokane, El Paso, Salt Lake City, Seattle.

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A modern installation showing versatility of Olean Standard Units.

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Detroit Steel Products Co.
Smith & Egge Mfg. Co.

Sash—Cord
Samson Cordage Works

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Rolscreen Company

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Holtzer-Cabot Electric Co.

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Eighty Telephone Buildings Have Dialed Armstrong's Corkboard

for perfect connection to top-floor comfort and permanent fuel economy



Left—The entire roof area of the Mountain States Tel. & Tel. Co. building, Denver, is insulated with Armstrong's Corkboard; top-floor offices are comfortable in any kind of weather. Architect—Wm. N. Bowman Co., Denver.

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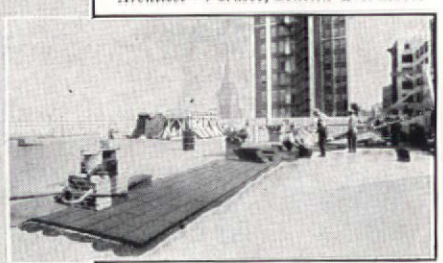
Below—On the roof of Mountain States Tel. & Tel. Co. building. Architect—Wm. N. Bowman Co., Denver; contractor—C. E. Walker Constr. Co., Denver; roofing contractor—Western Elaterite Roofing Co., Denver.



Below—Armstrong's Corkboard insulates the Southwestern Bell Telephone Co. roof, Kansas City, Mo. Architect—Hoit, Price & Barnes, Kansas City; associate architect—I. R. Timlin, St. Louis.



Below—2" Armstrong's Corkboard insulates the N. Y. Telephone Building, Buffalo. Architect—Vorhees, Genelin & Walker.



Some of the 80

Here is a partial list of the telephone buildings that have insured top-floor comfort and fuel economy with Armstrong's Corkboard Insulation on the roof.

New York Telephone Co., N. Y. C.—(3 *buildings*)
Portland Telephone Building, Portland, Me.
Telephone Exchange Building, Boston, Mass.
New England Tel. & Tel. Co., Boston, Mass.—(*Stadium Exchange*)
Bell Telephone Bldg., Athens, Ga.
So. Western Bell Telephone Bldg., St. Louis, Mo.
Indiana Bell Tel. Co., Marion, Ind.
Cumberland Tel. Co., Louisville, Ky.
So. Western Bell Telephone Bldg., Amarillo, Texas
Bell Tel. Co., Montreal, Canada
Wisconsin Tel. Co., Kenosha, Wis.
Michigan Bell Telephone Co., Ann Arbor, Mich.
Southern Bell Tel. & Tel. Co., Chattanooga, Tenn.
Southern Bell Tel. & Tel. Co., Savannah, Ga.
So. Western Bell Tel. Co., Dallas, Texas
Bell Tel. Co., Philadelphia, Pa.—(3 *buildings*)
So. Western Bell Telephone Bldg., Oklahoma City, Okla.
Southern Bell Telephone Bldg., Greensboro, N. C.
Northwestern Bell Tel. Co., Minneapolis, Minn.
Southern Bell Telephone Co., LaPlace, La.
New England Tel. & Tel. Co., Dover, N. H.
Michigan Bell Tel. Co., Detroit, Mich.—(4 *buildings*)
Ohio Bell Tel. Co., Columbus, Ohio—(2 *buildings*)

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Armstrong's Corkboard Insulation

for the roof of every building

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U. S. Mineral Wool Co.

Sound Retarding Doors
Compound & Pyrono Door Co.

Spandrels
Aluminum Co. of America

Sprinkling Systems
Thompson Manufacturing Co.

Stain—Shingle
Cabot, Samuel, Inc.

Stain—Wood Preserving
Cabot, Samuel, Inc.

Stainless Steel
American Stainless Steel Co.

Steel—Flat Rolled
National Assoc. of Flat Rolled Steel Mfrs.

Steel Construction—American Bridge Co.
American Institute of Steel Const., Inc.
Bethlehem Steel Co.
Carnegie Steel Company

Steel—Forms
Concrete Engineering Co.

Stone—Artificial
Jacobson & Company
Rackle, George, & Sons Co., The

Stone—Granite
Bates Bros. Seam Face Granite, Inc.
National Bldg. Granite Quarries Association

Stone—Limestone
Indiana Limestone Company
Victor Oolitic Stone Co.

Stone—Marble
Georgia Marble Co.
Vermont Marble Co.

Stone Ware, Chemical
Knight, Maurice A.

Store Front Construction
Detroit Show Case Co.
Kawneer Company, The
Michaels Art Bronze Co.
Tyler Company
Zouri Company, The

Stoves—American Stove Company

Structural Steel
Bethlehem Steel Co.
Carnegie Steel Co.
Jones & Laughlin Steel Corp.

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American Telephone & Telegraph Co.

Terra Cotta
Federal Seaboard Terra Cotta Corp.
National Terra Cotta Society
Northwestern Terra Cotta Co.

Tile—Cork Composition
Congoleum-Nairn, Inc.

Tile—Floor and Wall
Norton Company
Pardee C. Works
Robertson Art Tile Co.

Tile—Hollow Building
National Fire Proofing Corp.

Tile—Roofing
Ludowici-Celadon Co.
Stedman Rubber Flooring Company

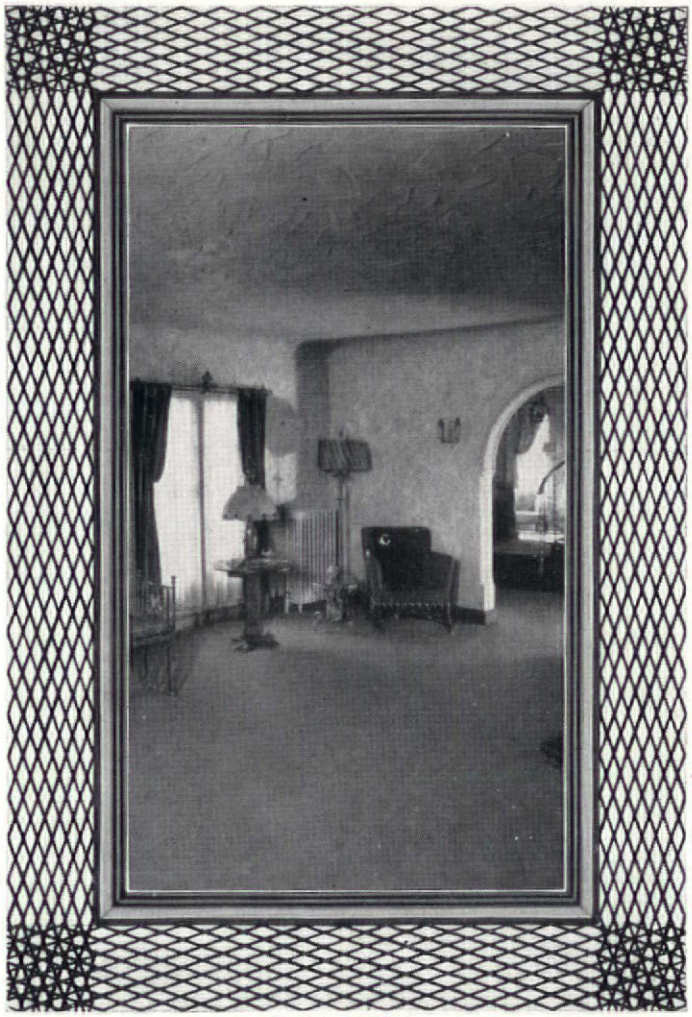
Tile—Rubber
Stedman Rubber Flooring Company
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Main Offices: **1407 Burnham Street, Milwaukee, Wis.**

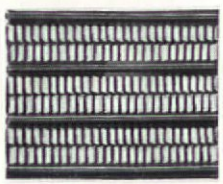
Plants at Milwaukee, Wis., Canton, Ohio, La Crosse, Wis., Chicago, Ill. and Kansas City, Mo.

Sales Offices: New York, 418 Pershing Square Building; Boston, Mass., 726 Little Building; Atlanta, Ga., 207 Bona Allen Building; Minneapolis, Minn., 642 Builders Exchange Building; Little Rock, Ark., 104 W. Markham Street

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Save with Steel

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Whatever style you would build—Colonial, or English, or French Provincial—floors of oak agree exactly with the rooms and their furnishings. Photograph by courtesy of Colonial Village, Wayne, Pa.

Where fine furnishings must be considered . . . specify OAK FLOORS

In most of the homes in Colonial Village good taste dictated the use of oak for floors. The burnished russets and the golden browns of this dependable wood would be the most handsome setting for the quaint old ladder-backed chairs, pie-crust tables and elegant high-boys which would undoubtedly be among the furnishings of the future residents.

And yet, even had this been the "French Village," the "English Village" or one of any other style, its wise designers would probably have chosen floors of oak. For, centuries of building history have proved to architects and decorators that oak is not only the most flattering background for all styles of furnishings but also the most durable and economical material for floors. In point of view of good design, original cost and future upkeep, it is the soundest sort of specification that an architect can make. . . . Oak Flooring Manufacturers Association of the United States, 1839 Sterick Building, Memphis, Tennessee.



Oak Flooring advertising is being continued on an increased scale during 1930. Look for our advertisements in *House & Garden, House Beautiful, Good Housekeeping, Better Homes and Gardens, The Literary Digest, Ladies' Home Journal* and *Small Home.*



This Master Trade-Mark is stamped on the under side of all Oak Flooring produced by members of the Oak Flooring Manufacturers Association of the United States. It is complete protection for you. Every piece is air-seasoned and kiln-dried, then milled, and thoroughly inspected and accurately graded, insuring high quality.

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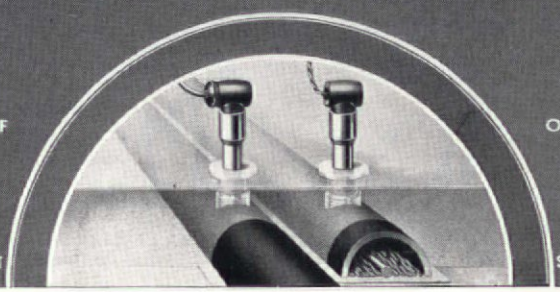
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